

Online Teaching-Learning

Issues and Challenges

Edited By
Dr. Badan Barman
Dr. Kankana Baishya

Badan Barman
House No. 8, Taranga Path, Krishnanagar
P.O.: Japorigog, Guwahati-781005, Assam, India

Online Teaching-Learning: Issues and Challenges

Badan Barman
Kankana Baishya

Badan Barman
2021

How to Cite this Book

APA Citation Style, 7th Edition

Barman, B., & Baishya, K. (Eds). (2021). *Online Teaching-Learning: Issues and Challenges*. Badan Barman.

Chicago, 16th Edition

Barman, Badan, and Baishya, Kankana, eds. *Online Teaching-Learning: Issues and Challenges*. Guwahati: Badan Barman, 2021.

MLA Citation, 8th Edition

Barman, Badan, and Baishya, Kankana, editors. *Online Teaching-Learning: Issues and Challenges*. Badan Barman, 2021.

This page is intentionally left blank

Online Teaching-Learning

Issues and Challenges

Edited By
Dr. Badan Barman
Dr. Kankana Baishya

Badan Barman
House No. 8, Taranga Path, Krishnanagar
P.O.: Japorigog, Guwahati-781005, Assam, India

Online Teaching-Learning: Issues and Challenges

Edited By

Dr. Badan Barman, Assistant Professor, Gauhati University, Assam, India

Dr. Kankana Baishya, Assistant Librarian, NLUJAA, Assam, India

Price: ₹ 0.0 (Nil)

Edition: 1st

Year of Publication: 2021



This work is licensed under a

Creative Commons Attribution 4.0 International License.

You are free to:

Share — copy and redistribute the material in any medium or format

Adapt — remix, transform, and build upon the material for any purpose, even commercially.

Under the following terms:

Attribution — You must give appropriate credit.

ISBN: 978-93-5408-234-4

Typeset and E-Book Production by

LIS Links

Near Nabagraha Temple, Kahikuchi, Ganakpara

Azara, Guwahati-781014, Assam, India

Email: info@lislinks.com

Website: <http://www.lislinks.com>

Publisher

Badan Barman

House No. 8, Taranga Path, Krishnanagar

P.O.: Japorigog, Guwahati-781005, Assam, India

Email: info@badanbarman.in

Website: <http://www.badanbarman.in>

Preface

Women Librarians' Association of Assam (WLAA) was established on 28th December, 2019 with the prime notion of societal development along with professional development. The Assam Library Association (ALA) was established on 1st January, 1938 and it recognizes WLAA as a division on 29th February, 2020. WLAA is a group of women Library professionals of Assam- the first of its kind in India and initiated its journey by inculcating reading habits among children by holding various activities and distributing books in the Children's home.

LIS Links is an academic social networking site for Library and Information Science (LIS) professionals in India. It is the first such network developed in the LIS domain in India and the largest social networking platform for LIS professionals. It was developed on 26th February, 2008 and has brought together more than 28,000+ LIS professionals under its umbrella and provides them different kinds of services in various sub-areas of LIS.

Women Librarians' Association of Assam (WLAA) in association with LIS Links organized an online National Seminar on Online Teaching-Learning: Issues and Challenges during September 3-4, 2020. The online event was attended by 179 participants from 28 states of India, Kuwait and Nigeria. The objective of the seminar was to bring to the surface and disseminate the paradigm shift of teaching-learning in the online mode in the realm of Covid-19. Out of the 74 research papers received, 40 papers were selected for publication in the form of an online edited book.

The editors are thankful to all people associated with the seminar especially to the Chairpersons, Co-Chairpersons, Moderators, Rapporteurs, Paper Presenters, Participants and all the stakeholders of Assam Library Association (ALA), Women Librarians' Association of Assam (WLAA) and LIS Links without which this work would not have been possible. We are also thankful to Ms. Phulasmita Nath, Ms. Manmita Baishya, Miss. Pallabi Devi, Mr. Jiarul Choudhury, Mr. Narender Pal and Mr. Sanjeeb Deka for their all-round support.

Dr. Badan Barman
Founder and Chief Editor
LIS Links, India

Dr. Kankana Baishya
General Secretary
Women Librarians' Association of Assam

This page is intentionally left blank

Contents

E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge <i>Dr. Preeti Sharda and Dr. Maneesh Kumar Bajpai</i>	1-12
Google Meet: An Online Smart Solution for Teaching-Learning <i>Mr. Jiarul Choudhury</i>	13-16
Government Initiatives in Education during COVID-19 <i>Mr. Kanak Kathuria, Ms. Priyanshi Agarwal and Mr. Rishabh Sekhri</i>	17-25
State Government Initiatives on Education in North-East India during Covid-19 Pandemic <i>Miss. Antara Dutta</i>	26-33
Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak <i>Dr. Jagadeesh Basapur and Dr. Kotresh Basapur</i>	34-37
Students' Perceptions on the Use of Google Classroom as an E-learning Platform <i>Dr. Nirmali Chakraborty</i>	38-43
Learning at Home: Engagement of Academic Community during COVID-19 Pandemic <i>Mr. Debashis Pratim Sarma</i>	44-50
Online Teaching-Learning during Covid-19 Period <i>Ms. Jahnavi Ramesh Iyer, Ms. Rushika Jain, Ms. Pokala Sai Kovala Sanjana, Ms. S. Malathi Varma and Dr. Dipti Soni Jaipurkar</i>	51-62
Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam <i>Mr. Chinmoyee Borpujari and Ms. Maushumi Mahanta</i>	63-68
Problems and Prospects of Online Education During Covid-19 Pandemic <i>Ms. Mridula Hazarika</i>	69-71
Open Access and its Role in Online Teaching-Learning <i>Ms. Maya Deori and Dr. Manoj Kumar Verma</i>	72-79
The Dark Side of Technology: Technostress in the Library Environment <i>Miss. Pallabi Devi</i>	80-84
Stress Management by the Women Library Professionals in Assam <i>Ms. Dipika Das</i>	85-89
Stress in an Online Classroom amidst Pandemic 2020 <i>Ms. Aishwarya. E, Ms. Rhythm Dewani, Ms. Smrithi Sanjeev, Dr. Dipti Soni Jaipurkar and Ms. Malathi Varma</i>	90-100
Online Teaching and Perceived Stress among Undergraduate Students during Coronavirus Disease-19 Pandemic <i>Dr. Dalimi Devi and Ms. Bijuli Rajiyung</i>	101-106

E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge

Dr. Preeti Sharda

Librarian, Postgraduate Government College for Girls, Sector 42-C, Chandigarh

Email: sharda.preeti@gmail.com

&

Dr. Maneesh Kumar Bajpai

University Deputy Librarian & In-charge, MadhuLimaye Library (Central Library)

Dr. Ram Manohar Lohiya National Law University, Lucknow, U.P.

Email: manish.nlu@gmail.com

Abstract

This paper discusses how to generate E-certificate automatically using the Google sheet generated out of the Google form. While doing any competition or any virtual meet, organizers take the feedback of the programme by way of Google Form and then it is being used to generate the certificate online. This paper discusses three ways to create the E-certificates automatically that can be sent either to the participants through email or upload them in the website of the organization to be downloaded later on by the participants. It discusses Add-on Certify'em in Google Form, integrating Google sheet with Autocrat Add-on and using the traditional Mail merge in MS word.

Keywords: E-Certificate Generation, Certify'em, Autocrat, Mail Merge

1. Introduction: There was a time when teachers were gurus and the pupil had to go gurukul to attain knowledge and guru were the ones who used to certify the pupil about the completion of their studies. Gradually, this system changed, and in the new system both students and teachers go to a school or college or university for studies and after passing the examinations, students get their passing certificate in the printed form. With the advent of the digital era now teaching has been shifted to online mode and the certificate provided to the students is also in the digital form.

This is the era of Massive Open Online Courses (MOOCs). Online portals like SWAYAM, Coursera, Futurelearn, Skillshare, Udemy, Edx.org, Udacity are offering various courses on varied subjects. COVID 19 pandemic has increased online learning. Globally educational institutions are closed. The teaching and learning process has changed dramatically. Teachers and students are meeting online and all the evaluation process is online now, be it a quiz or a competition, everything is done using various online platforms. In the same way, organizations are organizing many webinars, lectures, training programmes in online mode. On completion of every course or on attending any virtual meet or after participating in any competition, participation or completion E-certificates is provided to the candidate.

Online learning portals have the in-built E-certificate process and on fulfillment of all the criteria a learner receives the e-certificate. Several softwares are available to generate an e-certificate. The process is tedious as firstly it needs to design a certificate, creating a certificate for each participant, and send it to the individual participant.

2. Generating E-certificate: If Add-on like Certify'em and Autocrat are used to generate a certificate, the certificate is automatically sent to the participant via email within a few seconds of filling of the form. But if the mail merge is to be used the certificate is made after the closure of the Google Form. Such a Certificate can either be sent through the email or uploaded alphabetically on the website of the organization. The choice can be made as per the quantity of the certificate to be issued. In case of generating the E-certificates using mail

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 1-12). Badan Barman.

merge, there is no limit while generating E-certificates using Add-on like Certify'em and Autocrat the daily limit of Gmail is imposed.

3. Preparing for E-certificate Generation: For creating an E-certificate using Autocrat and Certify'em or even through the mail merge feature, an organization or a coordinator must have a Gmail account. If the coordinator has a Google Workspace (previously known as Google Apps and then as G Suite) account then 1500 E-certificates can be sent in a day otherwise the limit is 100 with a regular Gmail account. If the coordinator wishes to create E-certificate using the mail merge feature then MS word, MS Office 2007, or above version should be installed in the PC or Laptop. Access to the website of the organization should also be there to upload the generated PDFs of the E-certificates. The steps of creating the E-certificate are:

a) Creating a Google Form: Google Form is one of the tools provided by Google to collect data or to organize quizzes. It is connected through the Google drive of the creator but can also be collaborated with other Gmail account holders. A Google sheet is also generated with the Google form and any information that is filled by the participants in the form is saved in the auto-generated Google Sheet. If the coordinator wants to generate E-certificate for the particular form then providing email should be made mandatory while creating the form. A Google form can be customized in many ways from its appearances to the question types, to the collaborations and access to the users.

b) Creating a Folder in Google Drive: A folder should be made in Google Drive to organize the files. The E-certificate template (in the form of Google Doc or Google Slide), Google form, and the sheet generated should be part of that folder. The E-certificate created should also be saved in the same folder. The name of the folder should be in accordance with the name of the programme.

c) Creating a E-certificate Template: A certificate template must be designed before the collection of the data. The selection of design purely depends on the personal choice of the organization but few things can be taken care of while designing a template. Color combinations used should be sober and the fonts should be appropriate. The certificate should primarily include:

- i) Logo of all the organizations involved in the programme;
- ii) Full names of the organizations involved in the programme;
- iii) Name of the programme;
- iv) Title of the certificate (either for participation or for merit or any achievement);
- v) Tag for the name and institute of the participants, grades or marks if the certificate is provided for a competition or any other information which is to be provided in the certificate;
- vi) Digital signature of the organizers with their name and affiliations;
- vii) Date of issuing and or a certificate number.

The certificate should be designed using Google Doc or Google Slide and saved in the programme folder in the Google drive. It can also be saved to the PC and Laptop as an MS Word document.

4. Creating E-certificate Using Certify'em Add-on in Google Form: Certify'em is a free tool and was introduced in 2017. It can be used to give E-certificates of participation and also of examinations and quizzes. It can be used as an Add-on with Google Form or Quizzes (and extension of Google Form) to provide automatic E-certificates to the participants or to the exam or quiz takers with the grades or numbers of the percentage of passing as a PDF attachment. To create E-certificate using Certify'em the coordinator must have a Gmail account and if it is a regular Gmail account, the Google form will automatically stop taking

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

entries on completion of 100 submissions with a customizable message and the link will be again activated after 24 hours.

To generate E-certificates through Certify'em, kindly follow the following steps-

- i) Open the Google Forms;
- ii) Either create a new form or click on the existing one;
- iii) Click on the three vertical dots in the extreme right, click on it and then click on Add-on;
- iv) A window of Google Workspace Marketplace will open, search for Certify'em Add-on and click on the App and install it, it will ask for Gmail account access and some other permissions. Click on allow to proceed further;
- v) After the Certify'em has been installed, close the Google Workspace Marketplace box and return to Google form;
- vi) An icon of Add-on  will be displayed in the menu, click on it and click "Show Certify'em Controls";
- vii) A popup window will be there in the right corner, "Turn on Certification", set passing percentage between 0 to 100, if you are using for the quiz otherwise, keep it 0; Choose from the available templates or the one customized and saved in Google;
- viii) If you want to choose a customized certificate then "Template" from the drop-down menu, choose the "Use of a Custom Template", a pop will appear, select the file from your drive and save the changes;
- ix) If you want to use a customized E-certificate then, after designing the certificate you have to add Identifier Questions. The first identifier question is always "Email Address" which will be used to send the certificate, so make the setting to "This form is collecting email addresses". The second identifier is always the "Full Name" of the participant. You can add many "Identifiers" in the form but you have to add Merge Tag using {{identifier}} to the certificate template used. Certify'em has defined Merge Tags and only these tags can be used during customizing an E-certificate (Figure 1);

Merge Tag	Description
{{full name}}	Full name of the exam-taker (from first question in exam, following email collection)
{{title}}	Title of the Google Quiz (this is different than the file name of the Quiz)
{{other identifier}}	The first, optional "other identifier", which follows the full name
{{other identifier2}}	The second, optional "other identifier", which follows the first "other identifier"
{{other identifiers}}	A combination of all available "other identifier" tags, separated by a comma
{{date}}	The date of exam submission in appropriate regional format (e.g. MM/DD/YYYY for USA, DD-MM-YYYY elsewhere)
{{date2}}	The date of exam submission in DD-MM-YYYY format
{{percent}}	The exam-taker's score as a percent (example: 95%)
{{passing percent}}	The percent score required to pass the exam (example: 80%)
{{points}}	The number of points the exam-taker scored
{{points possible}}	The total number of points possible to score in this exam
{{certificate id}}	A 7-digit serial number, unique to this exam and exam-taker
{{other identifier3}} Certify'em Gold & Platinum only	The third, optional "other identifier", which follows the second "other identifier"
{{other identifier4}} Certify'em Gold & Platinum only	The fourth, optional "other identifier", which follows the third "other identifier"
{{other identifier5}} Certify'em Platinum only	The fifth, optional "other identifier", which follows the fourth "other identifier"
{{other identifier6}} Certify'em Platinum only	The sixth, optional "other identifier", which follows the fifth "other identifier"

Figure 1: Merge Tags in Certify'em

- x) Although you cannot use any other identifier in the E-certificate if you want to add some other information like "Name of the Institution" or "Name of the City" you can first write "Other Identifier" in the question followed by the required information. If you want some

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

more information you can use “Other Identifier2” in the question followed by the required information. A sample of Google Form is given in Figure 2;

Figure 2: Google Form for Identifier

xi) In the certificate template, you have to write {{Full Name}} to include Name and {{Other Identifier}} for the Name of the Institution (Figure 3);

Figure 3: Certificate Template

xii) There are some Advanced Options like customizing the message to be sent to the participants along with the PDF of the Certificate;

xiii) You can also select with the certificate attachment should be sent as Image or Pdf

xiv) Once you are done with all the settings just check that “Certification is ON”

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 1-12). Badan Barman.

xv) Now your form is ready to be filled and generate automatic E-Certificate.

xvi) A sample of the certificate is attached as Figure 4.



Figure 4: E-certificate Sample Generated through Certify'em

5. Creating E-certificate by Integrating Autocrat Add-on in Google Sheet: Autocrat is an App which can be used as a merge tool to automatically create and share the PDFs via email. It is developed by CloudLab. It is an Add-on for Google Sheets. It can be used to create a participation or attendance certificate by integrating it into the response sheet created with Google Form. There are two provisions for sending an E-Certificate via Autocrat i.e. sending the certificate automatically with the filling of form or the send them after the closing date of Form Submission. Choice purely depends on the programme coordinator. The only difference in the settings is running the Autocrat Certificate Generation process before the launch of the form or doing it after the form has stopped collecting responses.

The steps for E-certificate generated by Autocrat is outlined below-

- i) The first step is to open the created folder and customize the E-Certificate which is to be used for the programme. Insert the <<merge tags>> for filling up the personalized information in the E-certificate;
- ii) Now create a Google Form in the form of a Feedback to collect the data. Please remember to collect the information on the fields which are to be used for <<merge tags>>, preferably with the same headings to avoid confusion;
- iii) Now go to the “Responses” of the Form and click on the sheet icon  on the page. A popup window will appear asking about creating a new spreadsheet or selecting an existing Spreadsheet, Open the new otherwise select the second option (figure 5). Select the option and click on “Create”.

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 1-12). Badan Barman.

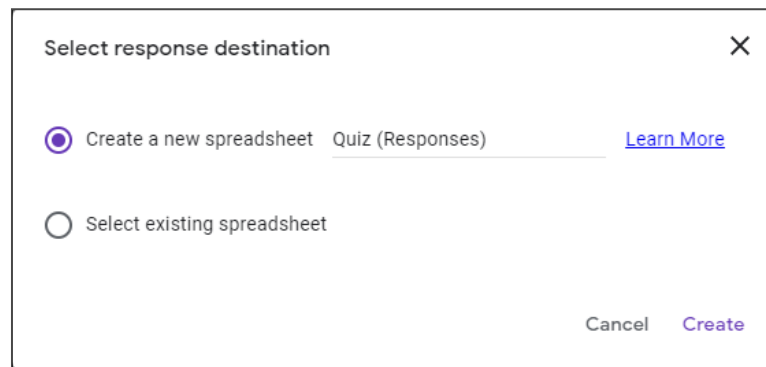


Figure 5: Opening Response Spreadsheet of Google Form

iv) Once the Spreadsheet is opened the first thing is to install the Autocrat Add-on. Click on Add-ons → Get Add-ons. The Google Workspace Marketplace window will appear. Find the Add-on Autocrat and install it, it will ask for Gmail account access and some other permission. Click on allow to proceed further. After the Autocrat is installed close the Google Workspace Marketplace box and return to the Spreadsheet.

v) Now again Click on Add-ons → launch Autocrat.

vi) A pop window will appear (Figure 6) click on “New Job”

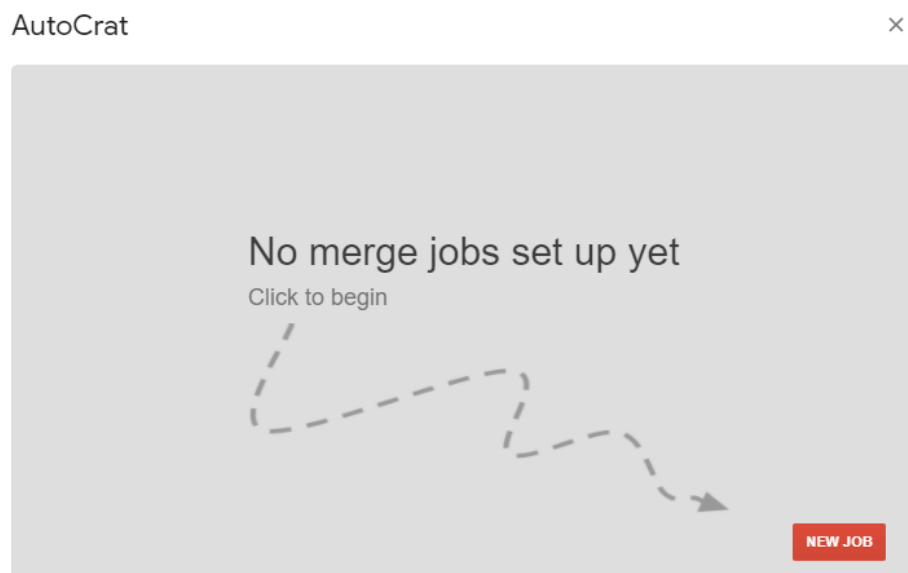


Figure 6: Launch of Autocrat

vii) In the next window, you just have to write the name of the merge job. Click on Next.

viii) In the next step, “Choose Template”. You can choose Google Slides/doc as a job template from your Google Drive. Click on select “From Drive” and choose the E-certificate template on Google slide/doc created for the programme.

ix) The next step is very important. Here you have to do the Mapping of the tags to names of the respective column in the spreadsheet. Mapping can be done through the drop-down menu (Figure 7).

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

Figure 7: Mapping of the Tags in AutoCrat

x) After mapping, click on the Next button and in the next window give the name of the certificate. By this name only, the certificate will be saved and sent to the respective participants. In the “Type”, “Google Slide” is by default but choosing “Pdf” will enable to send the certificate as a pdf attachment. Choose Output as “Multiple output mode (classic mode)” not “Single output mode”, click on next.

xi) For the next step “Choose destination folder(s)” click on choose folder which you have already created in your Google drive. This will enable you to save all the merged docs in that folder only.

xii) You can skip the next two steps: “Dynamic Folder Reference” and “Set Merge Conditions” and press next.

Figure 8: Share docs and Send Mails

xiii) The next step is again very important. “Share docs and Send Mails” click on “yes”. The window will be extended. For “Allow collaborators to re-share” and “Allow collaborators to re-share” keep “No”. As shown in figure 8 in “To” write the title of the email address column of the spreadsheet in tags <<Email Address>>. Through this the designated email

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

address is selected for the email to be sent to the respective participants. Write the appropriate subject (it's a must) and a message to be enclosed in the Email with the certificate. Now click on next.

xiv) A pop-up window will appear asking "Add/Remove job Triggers". This step is for Running Triggers. Click "yes" to "Run the Form Trigger" and keep "no" for "Run the Form Trigger" (Figure 9), click on Save.

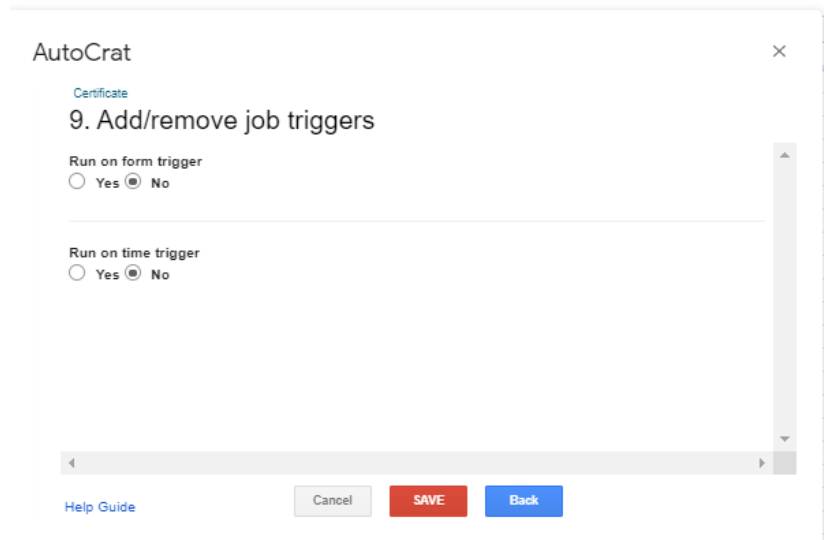


Figure 9: Running the Autocrat Process

xv) The last step is to Run, Edit, and preview the Job. Once you save and you have got no error, and your screen will be like figure 10. Now the certificate has been attached to the Google Form. If you have attached the E-certificate to the form before the opening date of Google form, whosoever fills the form will receive the E-certificate but if this step is performed after the closing date of Data collection then click on the play button, merging will start and certificate will be sent one by one.

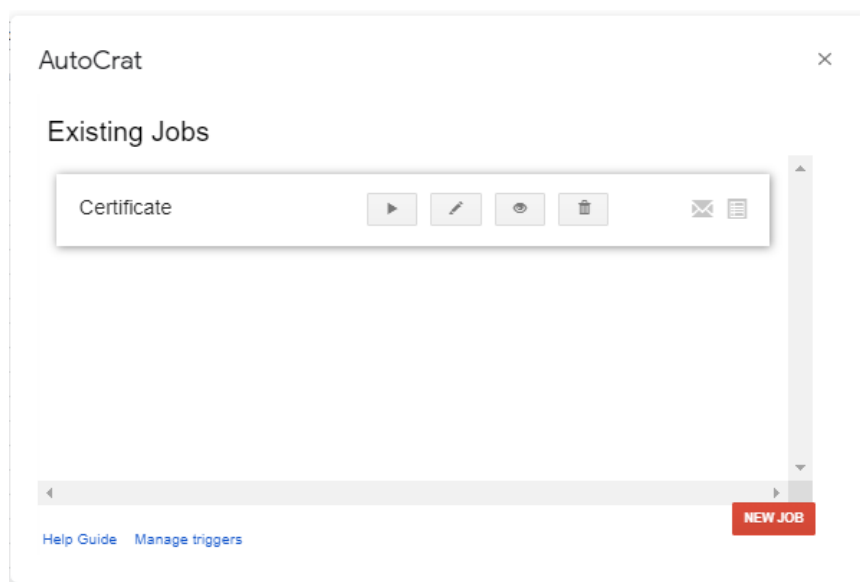


Figure 10: Certificate Creation Ready in AutoCrat

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.



Figure 11: Sample of the Certificate Generated by Using AutoCrat

6. Creating E-certificate by Using Mail Merge in MS Word: “Mail Merge” is one of the finest features of the MS Word. It simplifies the process of producing personalized documents. Through the Mail Merge feature, one can create personalized documents, be a letter of a certificate, using the data of Excel Sheet, and send through the mail. Creating E-certificate through Mail Merge and saving them as pdf and uploading the list on the website is a very simple task. This method can be used to overcome the daily limit of Gmail. Before starting the process of creating a certificate, a software “Merge and Split” (MS Word Adon) should be installed. It is an add-on which enables us to split the previously merged documents as separate jpg or pdf files.

The steps to create E-certificate by using Mail Merge is provided below-

- i) The first step is creating an E-certificate in MS Word and saving it to the folder created for this purpose. The certificate should have definite places where the data has to be merged like the name of participants or institutions of the participant. Creating a Google form and collecting the data and opening the Spreadsheet is already discussed in the earlier part of the paper. Now, download the spreadsheet as MS excel in the same folder;
- ii) Now click on the Mailing tabs and click to “Select Recipients” and from the drop-down menu select the “Use Existing List” (Figure 12), now open the saved Excel sheet for the folder. Remember the pop-up window may show you many sheets select the one ending with “1\$”;

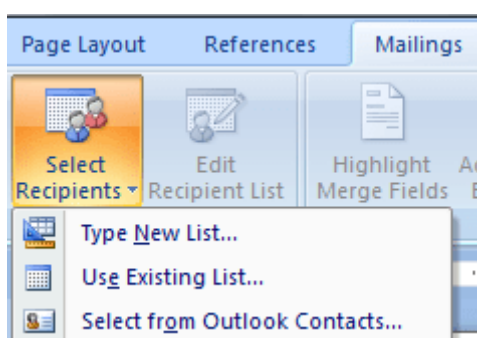


Figure 12: Merging Excel Sheet with the Template in Mail Merge

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 1-12). Badan Barman.

iii) Now take your cursor where you want to insert the merge field and click on “Insert Merge Field” from the “Write & Insert Field” tab to select the field you want to merge (figure 13). From the drop-down menu select the fields you want to merge. If you want to merge more fields you can repeat this process;

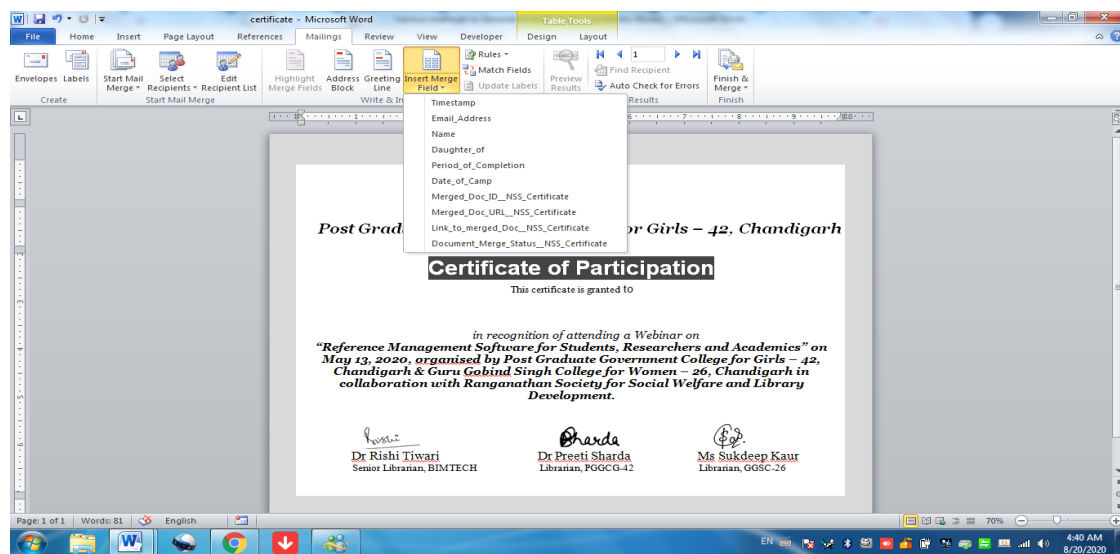


Figure 13: Merging Field

iv) In this way, a document will be prepared with the all merge field. You can see the results of the merging on the “Preview Tab”;

v) When we normally use mail merge we run the “Finish & Merge” from the Finish tab and from the drop-down menu, we select the appropriate option either “printing the documents” or “sending the email”s. But since we are making the E-certificates in pdf format, this method won’t work here. We can do two things either creating Pdfs using the “Developer” menu and writing VBA code or to install a small add-on “Merge and Split” in the MS Office. The second option is easier to perform;

vi) If the “Merge and Split” is installed, one more tab will be created in the “Mailings” menu–“Merge & Split”. If you click on Merge & Split, it will ask for the location in which output is to be saved, name of each document has to be saved and format in which document is to be saved. Give the path to the folder made for saving the certificate in “Browse for Folder”, click the name in “Specify the field which contains the text to be used as the file name. Click on “create PDFs” and also click on the “delete document files after PDF creation”. In this way, only PDFs of the certificates will be saved in the specified folder. If you which to send the created E-certificate through email click on Merge to mail as shown in figure 14 (before this, you need to configure your email account in the outlook);

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

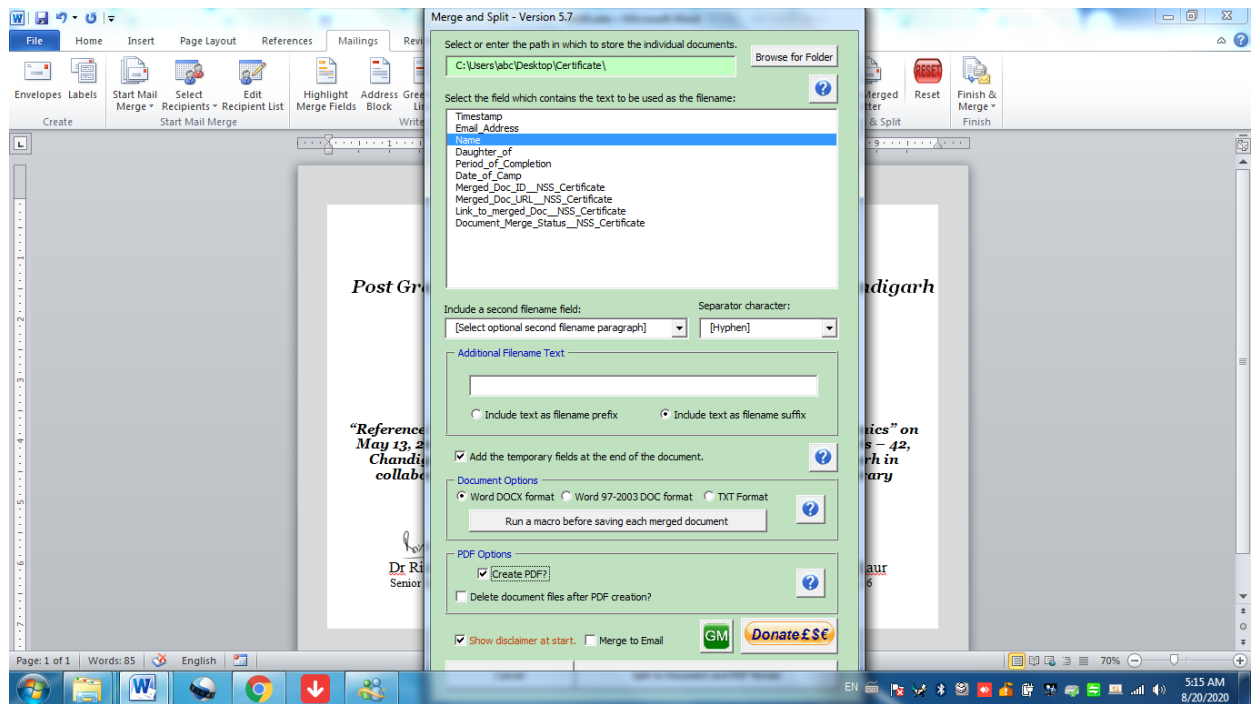


Figure 14: Sending Certificate via Email

vii) Now click on the “Split to Document”;

viii) It will show the list of the merged documents (Figure 15)

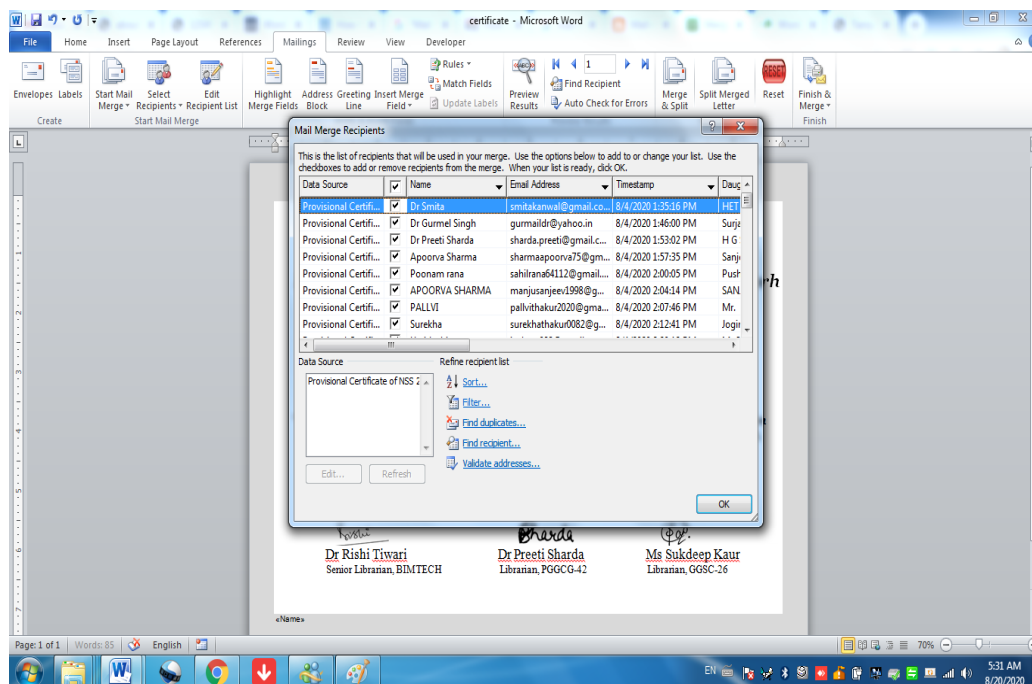


Figure 15: List of the Merged Documents

ix) Click ok and the creation of PDFs will start and all the PDF will be saved in the specified folder (Figure 16).

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

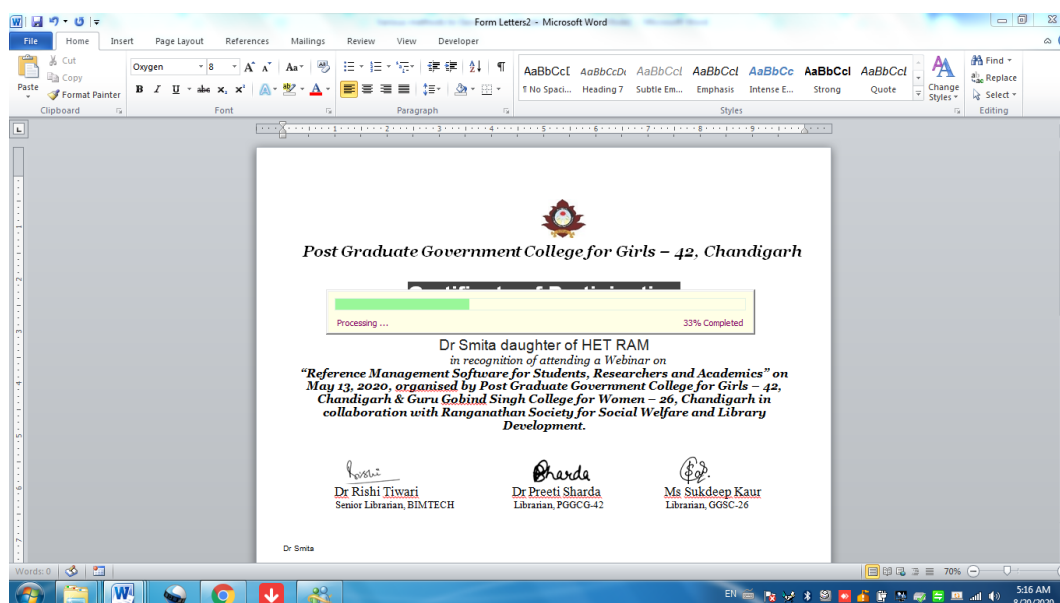


Figure 16: Process of E-certificate Creation through Mail Merge

x) The PDFs can also be uploaded alphabetically on the website of the organization and participants will be able to download from there.

7. Conclusion: Organizing a programme is a very tedious job, be it face to face or online through a virtual platform. Creating certificates is again a big job and requires lots of effort. Participants look forward to the participation certificate. In the face to face programmes the certificate is given immediately after the completion of the programme. If the methods mentioned in the preceding sections are used even participation certificates on the online programmes can be delivered immediately after the programme is over. Initial problems may come while performing these processes but eventually it remains a task of a few minutes. The E-certificates are very important as they reflect the hobbies, interest and it is a proof that someone took part in a significant event.

References

- Abouav, D. (n.d.). Certify'em. <https://www.certifyem.com/>
- Google Workspace Marketplace (n.d.). Autocrat. <https://gsuite.google.com/marketplace/app/autocrat/539341275670>
- Mayor, G. (2012). Merge and Split Add-in for Word 2007 – 2016. <http://www.gmayor.com/MergeAndSplit.htm>

How to Cite this Article

Sharda, P., & Bajpai, M. K. (2021). E-Certificates Generation by Using Certify'em, Autocrat and Mail Merge. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 1-12). Badan Barman.

Google Meet: An Online Smart Solution for Teaching-Learning

Mr. Jiarul Choudhury

Librarian, Delhi Public School Kamrup, Assam

Email: jc7232@gmail.com

Abstract

As a result of covid-19 pandemic situation, almost all the countries got affected. Educational institutions were closed for the last few months. Millions of children were missing their regular classroom. The situation was overcome by the co-operative efforts of educators & technologists wherein the whole education system was transferred from physical to virtual space. The leading software companies had developed different types of user-friendly E-learning software and mobile applications for video conferencing. Among them, "Google Meet" is a very much popular one. It has many advanced features with lots of advantages which allow it to create meetings, start virtual classes and so on. It also allows live streaming to up to 1,00,000 viewers within a domain. Google Meet is really a smart solution for the virtual teaching-learning processes.

Keywords: Google Meet, Online Video Conferencing Tool, Webinar Hosting

1. Introduction: As an impact of COVID-19 Pandemic all the educational institutions that include school, colleges & universities are closed across the world. Approximately 1.2 billion children are missing their regular classrooms. As a result, the whole education system has changed overnight dramatically. Physical classrooms are transformed into virtual classrooms in a week. Teachers and educators have adopted the new E-Learning technologies, started teaching-learning processes on digital platforms so that our future generations should not suffer or get deprived of their academic needs due to the Pandemic situations. Many developers and agencies have started to design and develop their own E-learning tools, contents and E-resources and so on. The leading software companies are working to develop or upgrade different types of user-friendly E-learning softwares and mobile applications for video conferencing. Among a good number of video conferencing tools "Google Meet" is a popular one. Millions of people trust in it. According to Oliver Mientz, IT Manager, Burger King Deutschland GmbH "We're big fans of Meet... It's helpful to be able to see every participant. This is extremely helpful these days. All our internal meetings are on (Google) Meet right now as we are all working from home."

2. Google Meet: Google Meet is a free video calling app developed by Google. It is very much secure, reliable and a user-friendly video conferencing tool for a ton of users globally. Anyone having a Google account can create a meeting with a limit of 100 participants. Using the "advance features" available to Google Workspace users can start a meeting with up to 250 participants. These advanced features also allow the live streaming to up to 1,00,000 viewers within a domain. The app is available in Android and iOS platforms both. Apart from mobile phones and tablets we can use it over the web also by using browsers in our Desktops and Laptops.

To use Google meet in Android platforms at the very beginning users need to download it from Google Play Store or Apple Store and install it on the Android devices. After installation users can host, join a meeting or share screen easily. For computers like desktop or laptop, users can use any modern web browser like Google Chrome or Firefox to access <http://meet.google.com> directly without the need to install any additional software for this.

The different features available in Google Meet are listed below-

How to Cite this Article

Choudhury, J. (2021). Google Meet: An Online Smart Solution for Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 13-16). Badan Barman.

- a) Meeting Length:** A normal Google Meet meeting which is available for Gmail users can last for 1 hour. However, it can go upto 300 hours for premium members.
- b) No. of Participants:** A meeting created by free Gmail users can accommodate 100 participants, however, for premium users it can go upto 250 users.
- c) Number of Meeting:** Both free as well as premium members can have unlimited number of meetings in Google Meet.
- d) Joining through Browser:** In the case of Desktop and Laptop, meetings created in Google Meet people can join through the browser. In the case of Mobile phones, people need to download a small piece of software.
- e) Turn on Captions:** This feature can accurately convert the speech of the presenter into text if the speeches are in English language.
- f) Recording Meeting:** The audio-visual of the ongoing meeting or classes along with the chat message can be recorded.
- g) Change Layout:** One can change the visual layout of a meeting on the device screen to Auto, Tiled, Spotlight or Sidebar according to their convenience.
- h) Full Screen:** This option gives a larger view of the meeting with all the features intake.
- i) Settings:** To enable or disable some features, we can click the Settings option.
- j) Participants Attendance:** The attendance of the participants can be collected automatically in Premium version.
- k) Live Streaming Within Domain:** Meeting hosts can transmit live audio-visual over the internet for the viewers. It supports upto 1,00,000 viewers within the domain.
- l) Use a Phone for Audio:** To speak and listen on our phone while in an ongoing meeting we can have Google Meet call our phone.
- m) Report a Problem:** We can report a problem describing the technical issues with the help of the screenshots to the executives of Google.
- n) Help:** We can take online help in some cases from the Google Meet executives.

In the months of August, September & November 2020, Google has added some new features to the updated version of Google Meet with the aim to support teaching and learning. Some of the new features are as follows-

- a) To manage the virtual classes or meetings Google provides moderators with more controls.
- b) The moderators can accept or reject the participants in bulk without consuming more time.
- c) If a participant has been ejected or denied twice, he/she will not be in a position to join the meeting again.
- d) The “End Meeting” feature will remove all the participants automatically when the class or meeting gets over.
- e) A new smart feature will restrict the participants who try to present and share his device screen in between an ongoing Meeting.
- f) With the new 7x7 grid view feature users can see up to 49 participants at once.
- g) The implementation of the collaborative whiteboard with jamboard is an excellent idea which can encourage students to share their innovative & creative ideas.

Some other interesting features are- replace background option, splitting classes into small groups, hand raising option, Q & A features, temporary recording feature, etc.

Some of the above features are only available from the PC or laptop, for mobile phones users in some cases there are certain restrictions. For example, in the mobile app, users are unable to see the features like- Recording Meeting, Start live streaming, or Change Layout.

To start a new meeting users need to log in to their existing Google account or sign up for free. After that the host user can create or schedule a meeting by going through a calendar which later can be sent or shared to anyone interested for the meeting. The

How to Cite this Article

Choudhury, J. (2021). Google Meet: An Online Smart Solution for Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 13-16). Badan Barman.

participants have to tap the meeting link or enter the meeting code while joining. The participants can also join with an automated calling facility by using the dial-in number and PIN.

3. Limitations: Some flaws found in Google Meet are listed below-

- a) Host needs to accept the join request one by one which is a time consuming operation.
- b) Due to the lack of technical knowledge, most of the new users present their mobile screen instead of joining the meeting, which interrupts the ongoing presentation.
- c) Many times, it is seen that participants unmute their audio mic which creates a noisy situation.
- d) If any participant presents his/her mobile screen in between an ongoing meeting there is no way with the moderator to stop it except to remove that participant.
- e) If a participant gets out from a meeting and the meeting room becomes full with 100, 150 or 250 members as the case may be, he/she cannot join the meeting again until and unless the other participant leaves the room.
- f) Due to the Incoming phone calls a participant gets exit from a meeting.

4. Suggestions to Overcome the Limitations: The following measures can be taken as a solution to overcome the limitations found in Google Meet in some extent-

- a) Meeting hosts may engage more trained moderators to accept & mute more numbers of participants by sharing his/her user id and password of Google account with others.
- b) Host should set some basic rules & regulations regarding the audio mic, video and present option. Host can add these rules in the meeting information link or may circulate the same with the joining link so that the participants can mute their audio and video before entering the meeting room.
- c) If there is any background noise, moderators should find out instantly and should mute those participants whose mic remains unmuted.
- d) Except the presenter or sometimes other panelists, all other participants should mute their audio & video to experience a better meeting with quality audio visuals.
- e) If any member is not aware about the Google Meet rules and presents his/her device screen repeatedly in between a meeting, the participant should be removed and restricted to rejoin by the moderator.
- f) Moderators should login the meeting with two or more devices to escape from an unwanted exit.
- g) Moderators should use Android devices to admit the joining request which comes with a pop up notification. Pop up is very fast on Android devices than the PC or Laptop.

5. Advantages of Using Google Meet: There are a lot of advantages for Google Meet users. They are as follows-

- a) Google Meet allows “anti-hijacking” measures to protect users’ data and privacy. Even when the attendance is collected, Google only shows a portion of the full Email address.
- b) Google Meet is very easy to use and user friendly.
- c) It allows upto 250 participants to join a meeting.
- d) A meeting host can easily mute and remove any participant without asking them.
- e) Participants can ask questions via chat box without interrupting the presenter.
- f) Google Meet can automatically switch the view to the video of the speaker or host who is speaking.
- g) Meeting participants can mute their own audio mic and turn off the video.

How to Cite this Article

Choudhury, J. (2021). Google Meet: An Online Smart Solution for Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 13-16). Badan Barman.

- h) The caption (CC) feature available in Google Meet is very interesting. It can accurately convert the speech into text if the speeches are in English language. Participants can read the caption texts as subtitles easily at real time speed.
- h) With the recording feature an user can watch the meeting later on.

6. Conclusion: Google Meet has become a daily life tool for distance learning in the educational institutions as well as among the other industries. It is a free, reliable, competent and user-friendly tool. When it comes to free solutions, literally it is the best platform for virtual meeting & classes in present day context. The upcoming versions of Google Meet with lots of pro smart features will definitely pull up the ICT industries to an advanced level.

References

- Google (2020). Google Meet premium video meetings—free for everyone.
<https://blog.google/products/meet/bringing-google-meet-to-more-people/>
- Google (2020). Google Meet. <https://apps.google.com/intl/en/meet/pricing/>
- Google (2020). Google Workspace: Google Meet.
https://workspace.google.co.in/intl/en_in/products/meet/

How to Cite this Article

- Choudhury, J. (2021). Google Meet: An Online Smart Solution for Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 13-16). Badan Barman.

Government Initiatives in Education during Covid-19

Mr. Kanak Kathuria

Student, Institute of Information Technology and Management (IITM) Janakpuri
D-29, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058
Email: kanakkathuria2@gmail.com

Ms. Priyanshi Agarwal

Student, Institute of Information Technology and Management (IITM) Janakpuri
D-29, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058
Email: priyanshi0806@gmail.com

&

Mr. Rishabh Sekhri

Student, Institute of Information Technology and Management (IITM) Janakpuri
D-29, Janakpuri Institutional Area, Janakpuri, New Delhi, Delhi 110058
Email: rishabhsekhri08@gmail.com

Abstract

This paper presents different central and state government initiatives during the Covid-19 pandemic that helps the students to continue their study online. An attempt is also made to find out the special features of each major initiatives in education and problems faced in accessing those initiatives by the target group and how it can be mitigated in future.

Keywords: Indian Government Initiative in Education during Covid-19, SWAYAM, SWAYAM Prabha, NDLI, Diksha, Smart India Hackathon 2020, Bharat Padhe Online

1. Introduction: The Education System in India always followed the system of offline classrooms and it was never estimated that the use of online education would emerge at such a high rate. CoronaVirus (COVID-19)-declared as a pandemic by the World Health Organization (WHO) developed a need for online learning because of the imposed lockdown in many countries including India. It became a challenge for the government as well as the educational institutions to shift to online education since the education system was very rigid especially when it comes to changing the mode of acquiring education. However, this pandemic taught us the need to change with time and keep applying the changes occurring in technology. Online education is very convenient when there is a need for a system that is less costly and is more affordable and can be accessed from anywhere no matter where one is.

But initially, everyone wasn't sure whether they would be able to adopt e-learning in such a short period but the efforts of the Government, as well as the educators, yielded a good result. Teachers started taking live classes using apps like Zoom, Google Meet and so on. Zoom became the next Paytm in terms of popularity like it became when demonetization occurred in 2016. WhatsApp groups were formed for regular updates and query sessions. Everything was done in the best possible manner but somehow it was very difficult to shift totally online since many didn't even have basic requirements like a laptop and a decent Wi-Fi connection. But, all the challenges were accepted and solutions to those challenges were made. Also, everyone is learning a lot from these experiences and many new opportunities are being discovered that were never in the part of our vision of the education system.

Online education saved the students from missing their lectures as it provided them time and location flexibility. Teachers tried their best to make the classes less boring and more interactive and used various techniques like showing videos and audio for better learning. Teachers tried a lot so that the human touch is not lost but still many problems hindered the process like few students which were not so serious made others feel uncomfortable having classes online but due to pandemic no other option was left. This led

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 17-25). Badan Barman.

to frustration and affected their mental health. Also, technical glitches in between the classes and slow internet connection made the students lose their focus and they became more distracted.

The pandemic has made everyone realize the importance and scope of online learning and how it can be adopted as a method for learning education. Teachers and students are also becoming more technology-oriented and trying to adopt the virtual learning culture. Although adopting online education isn't easy as it has its own requirements and maintenance and special content and training is required for proper implementation but the teachers and students both are learning daily and are trying new and innovative ideas to make this digital process more engaging and understandable.

2. Objectives: This research study focuses on the below objectives:

- a) To study the various initiatives by the government on education during COVID-19.
- b) To study the implementation of these initiatives and to what extent they succeeded.
- c) To study the problems faced in implementing these initiatives and what solutions can be applied to solve those problems.

3. Central Government Initiatives in the Education Sector during Covid-19 Pandemic:

Due to the nation-wide lockdown, all schools and colleges shut, the students were studying from home using minimal resources. But the Govt. of India challenged this pathetic condition of the future of the country and provided various online platforms for up-skilling the students. The Ministry of Human Resource Development (MHRD) has made various arrangements so that the learning of students isn't hampered even during the crisis. Some of the digital initiatives taken by government bodies for offering educational content are listed below:

a) SWAYAM: Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) is an initiative by the HRD Ministry in the favor of online education for students. It aims to reduce the digital divide and provide knowledge to the students who have remained untouched by the virtual revolution through various MOOC courses.

It offers courses from class 9th upto post-graduation. This program benefits the students by providing free access to video lectures, weekly assignments, examinations and then, certification. So, a systematic learning approach is followed to achieve the learning goals.

b) SWAYAM PRABHA: The Union HRD Minister launched this portal for e-classes where 32 DTH channels were made available so that students can get connected with their students even when they are away from classrooms. The initiative aimed at providing quality learning resources available in remote areas where Internet connectivity is a major challenge. Here, various educational programs are telecasted on a 24 hours basis using satellite.

c) National Digital Library of India ((NDLI): The NDLI in a single window integrated content from various National and International libraries. This platform was created by the great minds of IIT Kharagpur. In this, educational material is available for every field of interest. This system has been made flexible by not only providing e-books to students but also audio, video lectures, presentations, questions, solutions, etc. The government has focused on providing content in all Indian languages so that there's no language barrier.

d) DIKSHA: This portal is specially designed for students and teachers to learn several concepts. Here, the teachers can earn badges on completion of certain courses which may help them in professional development. It aids to train the teachers by providing various resources.

e) Smart India Hackathon 2020: An initiative by AICTE which provides students a platform to solve the nation-wide problems. The best suggestions get rewarded by the

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

Government. Here, the most innovative solutions are developed for the existing government or industry problems. It aims to solve the challenges faced by the country. This year, the Government conducted its largest-ever online Hackathon in the world.

f) “Bharat Padhe Online” Campaign: Launched by HRD Ministry on April 10, 2020, the program aimed at inviting the best minds from the country to address the problems in online education with possible solutions to overcome them with the Education Ministry. The campaign got a lot of popularity over social media sites with over 3700 suggestions within 3 days of the launch.

The government hasn't only provided plenty of new portals for the flow of education in fact it has tied up with private firms like Tata Sky, Airtel DTH operators for increasing the reach of education-based content. Hence, the online initiatives in the education sector are also taking the country closer to its aim of “A Digital India”.

g) E-Pathshala: E-Pathshala learning app has been launched by NCERT for students of classes 1 to 12. It provides free e-resources like audios, videos, books, etc for students, parents, and teachers which can be accessed anytime, anywhere. All the NCERT books have been digitized for students. The stakeholders can access the e-content using flexible media like mobile phones, tablets, or laptops, and desktops with the content being uploaded in multiple Indian languages including Hindi, English, and Urdu.

h) UGC's notice on Regular communication: The University Grants Commission issued a notice stating that all universities must have a helpline no. and Email ID for Grievances Cell where students can stay connected and ask their doubts related to academics, examinations. The initiative was taken in the view of students for proper communication between students and teachers so that there isn't any anxiety or mental health issues.

i) MANODARPAN: This initiative by MHRD provides assistance on mental health. It was launched during the Aatma Nirbhar Bharat Abhiyan being launched by the Prime Minister. It provides psychological support due to stress at the time of Covid-19 to students, teachers, and parents. The Government has made available a toll free no. for assistance. This campaign can also be used for increasing productivity and human capital under Aatma Nirbhar Bharat.

j) AICTE Internship Enterprise Portal: This initiative is also called The Urban Learning Internship Program (TULIP) which acts for advancing skills. The All India Council for Technical Education (AICTE) has brought a portal for internship opportunities for college students. This portal provides an opportunity to the students to get hired by the industry/organization. The certificate (provided after completion of internship) makes value addition to the students' CV.

4. State Government Initiatives in the Education Sector during Covid-19 Pandemic:

State Governments on their individual level also took their initiatives during this COVID-19 pandemic. Some of them are highlighted below:

a) SMILE: This project is known as Social Media Interface for Learning Engagement, an initiative taken by the Government of Rajasthan wherein students from class 1 to 12 receive e-content on the Whatsapp Groups. The e-content being sent to students is reviewed by the State's academic body, Rajasthan State Council of Education Research and Training (RSCERT).

b) Padhai Tuhar Dwar Portal: The online education portal was launched by the Chhattisgarh government for conducting online classes of school children from home. The scheme is cost-free and involves a simple enrollment procedure to gain access to the portal.

c) Happiness Classes: Delhi's education minister launched this initiative with a motive to make students introspect and know themselves better. Herein, various activities were performed like storytelling, meditation and so on. Government teachers conduct online sessions for this happiness curriculum.

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

d) CR Initiative: Director of Higher and Technical Education and Director of Education and Literacy, advise students, teachers, schools, and colleges to participate in CR School-a free social initiative startup. CR School is a platform with cool features like interactive communication between teachers and students on-the-go access to study materials, personal evaluation and updated lesson plans of online classes.

The government hasn't only provided plenty of new portals for the flow of education in fact, it has tied up with private firms like Tata Sky, Airtel DTH operators for increasing the reach of education- based content. Hence, the online initiatives in the education sector are also taking the country closer to its aim of "A Digital India".

5. Special Features of the Various Initiatives: The special features of the various central and state government initiatives in education can be looked into from the following angles-

a) SWAYAM

- i) This is an e-learning platform of the HRD ministry which has been accessed by 5000+ students during lock-down as it provides knowledge in all fields of study.
- ii) Here, the parameters are set to evaluate the quality of learners which is kept the same at the National level. This will help in maintaining a standard value in the Indian education system.
- iii) In SWAYAM, after the successful completion of examination for the course enrolled by the student, the marks secured are transferred to the academic records of the students. This special feature of SWAYAM has increased the credits as it adds a few points in their overall academic performance. So, many students who couldn't score well in examinations have obtained these online courses so that their overall percentage is not disturbed.
- iv) An average of 59,000 viewers is viewing the videos of SWAYAM PRABHA DTH TV channels every day.

b) National Digital Library of India (NDLI)

- i) Every student can use it in a personalized way depending on his level of education and language choice for difficulty level and other such factors.
- ii) This initiative by IIT Kharagpur, can be accessed 24×7 in an integrated environment where students can find out the right resources within seconds and minimum efforts. But a disadvantage of this portal is that upon searching for a specific book, the portal sometimes shows irrelevant results. Due to this, the user does not get the expected output.
- iii) A total of more than 60 types of learning resources are available such as manuscripts, video lectures, thesis, books etc. and in 70 different languages.

c) DIKSHA

- i) Unlike other portals, this portal is not for students. It is specially designed for teachers. It serves as a capacity building of the teachers based on CBSE training manuals and NCERT's NISHTHA modules.
- ii) Till June 2020, only two courses were added for the teachers i.e. "Pedagogy of Environmental Studies" and "Health and Well-being in Schools". Various teachers across the country took these courses and got digital certificates after completion.
- iii) This initiative has strongly served the purpose of teachers' community which in turn will be reflected in their teaching process.

d) Smart India Hackathon 2020

- i) This initiative was a huge success as it provided solutions to the major problems occurring in the country. It was noticed that through this initiative, the students worked on real-life challenges and came up with innovative solutions.

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

- ii) The students from various State, Central Universities took part in it and presented solutions on Waste management, Crime Free Bharat Mission, Agriculture and Rural Development using Blockchain. In addition to this, various colleges conducted an intra-college hackathon and best teams were selected to apply at Smart India Hackathon, 2020.
- iii) Among Smart India Hackathon Winners the students from IIT-H, NIT-W who won cash prizes got a lot of appreciation. Ultimately, this initiative is one of the most successful initiatives due to its nature of competition among the great minds of the country.

e) Bharat Padhe Online

- i) It was a week-long campaign for the crowd-sourcing of ideas on improving the online education system in India.
- ii) This online program was launched by the HRD ministry and was valid from April 10, 2020 till April 16, 2020.
- iii) It can be said that it was successful as it was trending in the top 10 on Twitter on 14th April 2020 and received 3700 + suggestions in just 3 days.

f) E-Pathshala

- i) Due to the rise of COVID-19 and lockdown in the entire country E-Pathshala became a very good source to study online and the usage of the portals exceeded up to 5 times in this period.
- ii) Government also added 200 new textbook courses which made the portal more beneficial and helped in raising the standard of education.
- iii) All E-Pathshala material was made available on the UMANG App wherein E-pathshala provided 3855 audios and video content.
- iv) UMANG App has a good rating on Play Store as well and can be accessed in Hindi, English, and Urdu languages at present.

g) UGC's Notice on Regular Communication

- i) UGC has taken several steps in order to reduce the anxiety levels in students due to the arrival of COVID-19 pandemic. Students can ask any grievances related to examinations or any academic problems which they were facing during the pandemic through a dedicated portal.
- ii) A special helpline number 011-23236374 has been set up for this purpose only.
- iii) A special Email Address covid19help.ugc@gmail.com has also been initiated.
- iv) A Task Force has also been constituted to monitor the concerns of students, teachers and institutions.
- v) All the colleges were requested to upload a notice regarding the same on their websites and to share them via email and other digital media to all the teachers and students.
- vi) There is also an existing Online Students Grievance Redressal Portal which can also be used for this purpose.

h) Manodarpan

- i) Lockdown was something that was never experienced by the students and this could affect their mental health and there was a need for psychological support which the Manodarpan initiative helped in overcoming stress.
- ii) Since mental health is also very important with academic needs, special counseling services, online resources and helpline number 8448440632 was created so that students don't face stress, anxiety and fearfulness.
- iii) The website is specially designed for the purpose and also includes a 21st century life-skills handbook.
- iv) The website also includes a live chat option which is very interactive and the required advisory guidelines were provided.

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

v) There is also a database present on the national level and directory of counselors which can be accessed in case someone requires counseling during this pandemic.

i) SWAYAM PRABHA

i) Under this initiative, NCERT has started providing live sessions to students' teachers and parents through a TV channel named Kishore Munch (Swayam Prabha).

ii) There is also an option to access this channel online through Kishore manch app play store.

iii) In addition to interaction with the viewers' hands-on activities are also demonstrated in the live sessions.

j) AICTE Internship Enterprise Portal

i) Students are required to sign up with their Student ID provided by the college/ university/ institute.

ii) The internships are provided from Work from Home with a stipend. These internships provide practical experience and opportunity to learn strategies like teamwork multitasking, time management, etc. in an industrial setup.

iii) This platform provides an opportunity to students to meet new people and develop relations among industry people and make their network.

iv) The Government aims to provide 1 Crore Internships by 2025 from 250+ companies. It has been made available in most Indian cities with PAN India locations.

6. Problems Faced in Accessing the Government's Initiatives: The following problems may be encountered by the students and institutions in accessing the government initiatives in online education-

i) The problem of unavailability of high-speed internet and poor economic conditions to afford mobile phone/laptop refrain a large number of students to avail benefits of these initiatives.

ii) It increased the responsibility of parents to educate their children. Some educated parents might be able to guide their children but uneducated parents would not be able to do the same.

iii) Not all study fields can be effectively used in e-learning. E-Learning tends to be more suitable for social science and humanities, rather than scientific fields such as medical science, accounting and engineering which require a certain degree of hands-on practical experience. The online lectures cannot substitute this need for medical students or mathematics, accountancy students, or real-life industrial training for a budding engineer. This might be changed in the future, but we are currently not yet reached a point where we can fully teach all those subjects online.

iv) Because of COVID-19 pandemic, students have no other source to learn apart from e-learning and some might not be able to grasp much & would prefer traditional face-to-face learning.

v) Unlike Diksha, E-Pathshala isn't much successful which can be observed from its 2.8* ratings on android based Google Play Store whereas the Diksha app has ratings of 4.4* as on 18th August 2020.

vi) Learning with social distancing may continue at least till next year, students may somehow manage to cope-up with their studies but these invisible restrictions may constrain the joy of school or college life minimizing their physical movement & affecting their physical & mental health

vii) Lack of interaction both ways i.e. between teacher-student & students-students under these initiatives will make the students feel bored.

viii) There are a number of courses available to students but there is not much guidance that which course is personally suitable for what kind of student.

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

ix) It's no shame in accepting that computer literacy is very poor in India even some senior teachers found it difficult to teach through their device on the internet as it was very hard for them to accept this new way of teaching all of a sudden.

x) It may create a rise in the gap of academic performance between learners from low-income groups and high-income groups as the low-income group won't be able to access the technology required for learning and can afford the costlier gadget to participate in online learning.

xi) Unfortunately, one of the biggest disadvantages of E-Learning continues to be cheating through various methods. This applies while using DIKSHA & SWAYAM PRABHA. Students can cheat in assessments easily as they take assessments in their own environment and while using their own personal gadgets. They cannot be directly observed during assessments or MOOCs without a video feed, this makes cheating detection almost next to impossible. Additionally, without a proper identity verification system in place, users taking online assessments might be able to let a third party take the assessment instead of them, resulting in a wholly fraudulent test result.

xii) Personalized feedback has a positive impact on students, as it makes learning processes easier, richer, and more significant, all the while raising the motivation levels of the students. In traditional classrooms, teachers can give students immediate face-to-face feedback. Students who are experiencing problems in the curriculum can resolve them quickly and directly either during the lecture or during the dedicated office hours. On the other hand, E-Learning still tends to struggle with student feedback. It's possible for students to provide teacher feedback but providing student feedback in an online setting is still a relatively not researched topic, and it might take a while for any specific strategies to become fully research-based and proven to be effective.

xiii) Some private universities are not able to conduct online examinations for the final year students as they rely on students' fees for infrastructure unlike state and central universities which have government for their financial backup. Final year examinations have not been conducted which directly mean a delay in degree/certification or in getting jobs for students or direct loss of 1 year.

xiiii) Skills like public dealing, communication skills, stage/ public representations, management can be learned only when done practically and are required in everybody's life. The online initiatives may be best for the academic but cannot sprout or develop such practical skills in any student.

7. Suggestions for Proper Digital Learning Implementation: The Indian Government had launched various initiatives for Digital Learning but there have been some areas that were escaped due to which the education in India has been disrupted. Following are the suggestions which can be taken into consideration for future aspects.

i) As there was a lack of awareness to use the digital portals so the government should take measures to give training to faculties and learners. They should be taught the process of using the technology. In fact, due to digital-divide some students had access to technology whereas some didn't. So, the government should provide tablets, mobile phones for distance learning with the in-built process of using that technology and then, provide free access to the Government Digital Portals.

ii) Due to lockdown, many youngsters lost their jobs so immediate action should be taken so that various new jobs, internships, projects can be accessed by those people from their homes.

iii) For the blur view of the reopening of colleges, the authorities can bring a common approach for all colleges for the online academic session so that education isn't hindered

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

even in tough times. India can prepare a B-Plan in case the situation doesn't get better in the long term.

iv) For availing the various Government Initiatives online, there's a requirement for the proper availability of Internet connectivity. For this, the telecom industry must expand its network to each city and village, so that India can be benefitted from this by providing jobs, internships or volunteering to talented youth in this sector. This will ensure completion of two objectives i.e. Internet availability everywhere and source of income for jobseekers.

v) Due to the online mode of study, the institutes prefer to teach theoretical subjects. So whenever the pandemic is over, the students must be exposed to the practical experience of the theories learned.

vi) Because of the long time sitting habits at home, students feel stressed out due to restrictions on stepping out and interacting with one another. So, educational institutes can lessen the cognitive load and increase interactivities during e-teaching.

vii) Communication skills are set to play an important role in showcasing one's personality. So, peer-to-peer group activities can be conducted during an online learning environment as it is necessary for real-life success.

viii) The college students were promoted by assessing them based on past examinations score. It was because there isn't any proper system of online examinations. The higher authorities can create online proctoring systems like Examity for protecting the authenticity of online education. Such systems can be used for anti-cheating during examinations as it has a valid ID verification and machine learning for a check.

8. The National Educational Policy (NEP) 2020: While the country was facing the pandemic crisis, the Union Cabinet approved the New National Education Policy 2020 (NEP-2020), with an objective to up-skill India with modification in the education system.

The policy aims for making "India a knowledge superpower". Now, learning will be made holistic, engaging, integrated, and enjoying. It is all done keeping in view the students who were mugging up the syllabus and the prevailing system was talking more on marks than skill development. The steps have been taken for the quality education system as a forward-looking vision. For school education, the government has replaced the 10+2 system by 5+3+3+4 curriculum. More focus will be made on skill development rather than memorizing the facts. No division of academic streams in school. So now students can choose the subjects according to their interests and make a career in that field without any restrictions. The emphasis of Vocational Education will begin from class 6 with internships for building skills. More emphasis is being given to make students learn Hindi Language. For higher education, the facility of multiple exit options has been provided with proper certifications. The new system has come with various modifications to move towards a holistic and multidisciplinary education. A common body for higher education will be created named as Higher Education Commission of India (HECI). It is therefore a progressive shift for cognitive learning and social & physical awareness to a scientific approach to learning. Hence, the new policy will focus on people's skills, technical expertise, and good knowledge.

9. Conclusion: CoronaVirus (COVID-19) experience has made everyone realize the fact that one needs to keep adopting the changes happening in their surroundings. Just like this, covid-19 pandemic totally changed the way people considered education. Previously, it was always believed that acquiring education means physical classroom and face to face teaching system and e-learning was never considered a better way to acquire education but now it has been observed by everyone that the future of education is e-learning since it becomes very accessible from any part of the world.

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

Although digital learning has its own limitations but if it is adopted the limitations in the future will be limited with updating technology. Also, when one would be habitual to online learning one will always be prepared in advance to deal with such pandemic situations and there will be a reduction in mental health and anxiety level issues since everyone would be habitual to this source of education as well. India is on the infancy stage in adopting digital learning but if the government trains the system by increasing their knowledge of information technology the day isn't far when online learning would reach in even in the remotest parts of the country. Since work from home is becoming the new way of doing work, continuing the focus on e-learning will also help the students in adopting this modern way of working so focus on e-learning should be carried forward even after this lockdown and COVID-19 situation ends. Students pursuing courses which have maximum practical exposure can use Springboard and Udacity that provide hands-on practice based online courses.

References

- Drishti (2020). National Education Policy, 2020. <https://www.drishtias.com/daily-updates/daily-news-analysis/national-education-policy-2020>
- Government of India (2020). DIKSHA - National Digital Infrastructure for Teachers. <https://www.india.gov.in/spotlight/diksha-national-digital-infrastructure-teachers>
- Gupta, N. (2020). DIKSHA e-learning Portal: Know Enrollment, Courses, and Curriculum. <https://www.jagranjosh.com/articles/diksha-e-learning-portal-all-about-enrollment-course-curriculum-1585130427-1>
- Jagran Josh (2020). 'Bharat Padhe Online' launched by MHRD, Last date for entries April 16. <https://www.jagranjosh.com/news/bharat-padhe-online-launched-by-mhrd-last-date-for-entries-16th-april-153610>
- Panagariya, A. (2020). Higher education: A new dawn – National Education Policy 2020 offers transformative road map for colleges and universities. <https://timesofindia.indiatimes.com/blogs/toi-edit-page/higher-education-a-new-dawn-national-education-policy-2020-offers-transformative-road-map-for-colleges-and-universities/>
- Press Trust of India (2020). COVID-19: HRD Ministry's e-learning platforms being accessed five times more during lockdown. <https://www.hindustantimes.com/education/covid-19-hrd-ministry-s-e-learning-platforms-being-accessed-five-times-more-during-lockdown/story-MbEry7gSWXCWNw6Wtowq5O.html>
- University Grants Commission (2020). Redressal of Grievances Related to Covid-19 Pandemic. https://www.ugc.ac.in/pdfnews/5062771_Public-Notice---Redressal-of-Grievances-Related-to-COVID-19-Pan.pdf
- Vikaspedia (n.d.). Swayam learning portal. <https://vikaspedia.in/education/interactive-resources/swayam-learning-portal>

How to Cite this Article

Kathuria, K., Agarwal, P., & Sekhri, R. (2021). Government Initiatives in Education during Covid-19. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 17-25). Badan Barman.

State Government Initiatives on Education in North-East India during Covid-19 Pandemic

Miss. Antara Dutta

Assistant Professor, Faculty of Commerce (Economics)

Narangi Anchalik Mahavidyalaya, Guwahati, Assam

Email: antarad64@gmail.com

Abstract

This paper discusses the various steps, both online and offline, taken by the respective state governments of North-East India to facilitate learning for students. It also makes a comparison of the learning initiatives undertaken by the state governments of North-East India based on the existing literature. This paper is qualitative and descriptive in nature. Data used are based on secondary sources such as surveys and reports of UNESCO, Ministry of Human Resource Development (MHRD) etc.

Keywords: *E-Learning in North East India, State Government Initiative during Covid-19, Learning from Home*

1. Introduction: With the COVID-19 pandemic, the government all over the world in order to curb the spread of the disease, declared lockdowns and curfews and hence almost all the economic activities came to a standstill. Although the pandemic has impacted almost every sector of the economy, yet the education sector has been worst affected. According to the UNESCO, nationwide closures have adversely impacted the education of 290.5 million students globally. Almost 91% of students around the world were out of school during the height of school closures in April 2020 and about 40% of low and lower-middle-income countries have not supported learners at risk of exclusion during this crisis, such as the poor, linguistic minorities and learners with disabilities (Global Education Monitoring Report, 2020). In India, 14 crores of primary and 13 crores of secondary students have been affected by the pandemic (Jena, 2020b, p. 12582). Hence, both the Central Government and the State Governments have been undertaking various initiatives in order to ensure continuation of learning among the individuals. The Ministry of Human Resource Development (MHRD) in order to cover the educational requirements of students, scholars, teachers, and life-long learners has undertaken a comprehensive initiative called PM-eVidya on 17th May, 2020 with the aim of unifying all efforts related to digital, online and on-air education to enable equitable multi-mode access to education (India Report on Digital Education, 2020), envisaged to benefit nearly 25 crore school going children across the country. Some of the online resources developed by the Government are- Diksha Platform, e-Pathshala, National Digital Library, Swayam, Swayam Prabha, Nishtha and National Repository of Educational Resources (COVID-19: Stay Safe Digital Learning Initiatives of Ministry of HRD, 2020). Similarly, the state governments of North-eastern India which comprises Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura have also been undertaking numerous steps for providing e-learning facilities in these states. But being comparatively less developed, it will be a great challenge for these states while coping up with the various educational requirements.

2. Literature Review: Few recent studies have focused on the impact of Covid-19 on education in India. For instance, Tarkar (2020) examined how the education system of India has been impacted with the sudden transition from offline learning to online learning during the pandemic. The author noted that the low income private and government schools are not having access to online e-learning solutions thereby causing a threat to continuity of learning

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 26-33). Badan Barman.

of students. In a related work, Raj (2020) describes that India is not ready to adopt an online education system as more development is required in the areas of internet, electricity and e-learning. Although, there has been serious implication of Covid-19 pandemic on education in a country like India, it has also provided the opportunity for the country to move into the advanced mode of learning which was not present earlier.

Moreover, there have been attempts to examine the various initiatives undertaken by the Government of India for promoting education in the period of crisis caused by the pandemic. Jena (2020a) described how the Higher Education Institutions (HEIs) of India ensured the continuity of the teaching-learning process, research and service by using some tools and techniques despite all the challenges posed by the Covid-19 pandemic. The author also noted that the pandemic has made virtual education at all levels of education the most preferred mode of education with an opportunity to change the pedagogical approaches. Jena (2020b) focuses on the various initiatives undertaken by the Government of India for providing seamless education for both secondary and higher levels of education in the period of crisis caused by the pandemic. The author concluded that apart from developing the knowledge and information technology infrastructure to cope up with the crisis like Covid-19, the government should formulate policies to include individuals living in remote areas, those belonging from marginalized and minority groups for effective delivery of education.

Hence, several studies have addressed the impact of Covid-19 on the Indian education system and how the government has been adopting various initiatives for continuation of education in the country as a whole, but, there is a lack of robust research on the status of e-learning in various states of the country and various initiatives undertaken by the different state governments. The present study focuses on various initiatives undertaken by the respective state governments of North-East India and makes a comparison among the states regarding the various initiatives of learning during the period of pandemic.

3. Objectives: The main objectives of this study are as follows:

- a) To discuss the various steps, both online and offline, taken by the respective state governments of North-East India to facilitate learning for students.
- b) To make a comparison of the learning initiatives undertaken by the state governments of North-East India.

4. Methodology: This paper is qualitative and descriptive in nature. Data used are based on secondary sources such as surveys and reports of UNESCO, Ministry of Human Resource Development (MHRD) etc. The study also extracts data from secondary literature such as books, journals, articles, newspapers, websites, etc.

5. Initiatives undertaken by the State Governments of North-East India: According to India Report on Digital Education, 2020, various states of India have been undertaking different initiatives of digital learning across the nation. Hence, some of the initiatives undertaken by the respective state governments of North-East India are as follows:

5.1 Arunachal Pradesh: Various initiatives undertaken by State Government of Arunachal Pradesh are:

- a) **Live Classes through EDUSAT:** It is an initiative where selected teachers are required to take live classes through a network of EDUSAT. For this, a state-of-art studio has been created along with strengthening of the EDUSAT network.
- b) **Radio School Programme:** Radio School Programme is an initiative undertaken by the Department of Education, Government of Arunachal Pradesh in collaboration with All India Radio (AIR), Itanagar for broadcasting online radio talk to class 1 to 5.

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

c) Online Classes Programme: Classes on TV channels have also been initiated in consultation with Kendriya Vidyalayas for the students of class 9 to 12 in various TV channels through DTH services such as Swayam Prabha, Airtel TV, Tata Sky, Videocon D2H, Dish TV as well as various local cable operators between Monday to Saturday.

5.2 Assam: Various initiatives undertaken by State Government of Assam are as follows:

a) Gyan Brikshya-Live Digital Classroom: Gyan Brikshya-Live Digital Classroom is an initiative under which Live Tele Education are being broadcasted for the students of class I to X every day on subjects like Mathematics, English and Science by expert teachers from Studio set up at SPD Office. The classes are telecasted by two local cable TV channel broadcasters- ACC and GTPL as well as are also broadcasted in Jio TV since Assam has more than 80 lakh subscribers of Jio services.

b) Biswa Vidya: Biswa Vidya is a Radio Learning Programme which has broadcasted through All India Radio (AIR), Guwahati and Dibrugarh for imparting elementary classes on English, Assamese, Social Science and EVS for three days in a week for a duration of fifteen minutes.

c) Tele Classes, Doordarshan, Assam: Doordarshan, Assam has undertaken tele classes where lessons on Science and Mathematics are imparted for class IX and X for four days in a week.

d) Biswa Vidya Assam: Biswa Vidya Assam, a user friendly, free of cost with smooth navigation mobile application have been developed where e-contents of class VI to X for Science, Mathematics, English Vocabulary and Grammar are made easily available.

5.3 Manipur: Various initiatives undertaken by State Government of Manipur are:

a) E-Content Portal: An E-content portal Laireek (www.laireek.net) has been created by the Department of Education, Government of Manipur which comprises both audio and visual classes for all subjects (over 200 in number) for classes 1 to 12 in bi-lingual mode. The department has been working with a large number of teachers for taking classes as well as curation work. Moreover, the class-wise contents are shared on a mobile application called "Lairik". In order to reach out to a maximum number of students, classes are also broadcasted through Radio, other community radios, and local TV channels.

b) Bosemebook: Bosemebook (www.bosemebook.in) is a platform which comprises digitized textbooks of class I to X. These e-textbooks are also shared in a mobile application named "BOSEM eBook".

c) Comic Textbooks: To supplement learning and make learning fun, comic textbooks for classes 3 to 5 containing Language, EVS and Mathematics have been created, a part of which is available in e-format.

5.4 Meghalaya: Various initiatives undertaken by State Government of Meghalaya are:

a) E-Learning Portal: E-Learning portal (<https://crschool.online/>) is an initiative of the Government of Meghalaya in collaboration with CR projects for classes KG to X to ensure continuity of students' studies as they faced with an inability to carry out normal learning activities in a school/classroom environment. This portal has been created to permit accessibility to study materials and most importantly to ensure the students that their teachers are within reach. The platform features a robust system of communication, collaboration and sharing of digital content which allows access for schools, teachers and students to ensure availability seamless and free online classes, syllabus-wise class lessons with anywhere and anytime access to study materials, interactive learning process and communication between teacher and student, conducting prometric tests and student evaluation, uploading of video

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

lessons by teachers, etc. The registration for the e-learning portal has been made free for everyone to encourage participation of schools from all over Meghalaya.

b) Free Online Course for Teachers: Online course for teachers at free of cost for better conducting of e-learning process have been undertaken by the Meghalaya School Improvement Programme (MSIP) team from Directorate of Educational Research and Training (DERT), Meghalaya for offering online course to help teachers for improvement in various aspects such as setting up their own online classroom, analyse course and lesson contents for students, prepare simple online formative and summative assessment tools, use ID to plan their online lessons, offer a platform for networking with other teachers across the state and share best practices etc.

c) Digital Content Portal: Digital content portal (<https://niceinfotech.co.in>) is an e-scholar portal which was launched by the Department of Education, Meghalaya aimed at providing digital content for secondary level for project schools under Supporting Human Capital Development in Meghalaya (SHCDM) Project. But with the pandemic, access has been given to all secondary and higher secondary schools to aid their studies. This portal provides contents for all subjects except MIL. The department has been ensuring that schools are made aware regarding the portal through the Meghalaya School Improvement Programme, State and District teams.

d) Radio Programmes: Radio Programmes are undertaken by the Department of Education, Meghalaya in collaboration with Doordarshan Kendra, Shillong and AIR for broadcasting lessons to students by focusing on hard spots of school curriculum. In order to listen to the lectures, students can tune to All India Radio (AIR), Shillong, Tura or Jowai.

5.5 Mizoram: Various initiatives undertaken by State Government of Mizoram are:

a) Online Education Challenge, 2020: Online education Challenge is a weekly challenge for Elementary and Secondary school students of Mizoram initiated by the State Council of Education Research and Training (SCERT), Mizoram with the aim of engaging students and teachers in productive time investing activities during the lockdown period. The SCERT invited challenges for students on poster making, collage making, card making, letter writing, making best out of waste, drawings and paintings on themes like “Heal the World”, “Single Use Plastic”, “Thank you note to doctors and nurses and other task forces on COVID-19”, on lockdown, picture characters from Mizo folktales, etc. The teachers were also invited to participate in challenges like making videos on their innovative teaching practices, article writing on their memorable teaching experiences, short video clips on teaching of English Vocabulary, development of video clips on fun ways of teaching mathematics, etc.

b) Diploma in Early Childhood Education (ECE): Diploma in ECE, a much anticipated 6-month diploma course for in-service teachers has been initiated in the beginning of the month of May 2020. Teachers who have enrolled for the course are given an online pre-test to determine their level of knowledge in ECE which is a very important factor for identifying the needs of teachers in terms of the content and delivery system for the course. Various faculties from SCERT and DIETs are engaged to deliver learning for the course.

c) Workshops: Workshops are conducted by SCERT, Mizoram for creation of high quality e-contents for QR codes of Elementary school textbooks. Moreover, SCERT faculty and teachers have been trained to develop contents on the workspace of DIKSHA App where more than 100 contents have been created for Mizo and Hindi Elementary textbooks.

5.6 Nagaland: Various initiatives undertaken by State Government of Nagaland are:

a) Audio and Video Lessons: Audio and video lessons are broadcasted through Doordarshan Kendra (DDK) and All India Radio (AIR) in collaboration with the Department

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

of School Education, Nagaland where recorded lessons are imparted on a daily basis. Initially, both audio and video broadcasts have been done for students of classes 8 to 12 but the department has proposed to extend the same for students of classes 5 to 7. In order to ensure maximum coverage for the DDK and AIR broadcast across the states including the remote areas, all the District Education Officers, Sub-Divisional Education Officers and School Heads were directed to work in association with the District Administration in each district and make necessary arrangements for students who do not have TV facilities at home to view/listen the broadcast at a common place like Village Hall, School Auditorium etc. The broadcast schedule was made in such a way that children could follow the social distancing norms while viewing the broadcasts from public places.

b) Online Evaluation Portal: Online evaluation portal (<https://dosenl.in>) for Upper Primary and Secondary School children has been developed by the Department of School Education, Nagaland as evaluation is an integral part of education and is very much essential for guiding students towards development. This portal is developed in such a way that it could be easily accessed through any mobile, laptop, PC and work efficiently even in 2G internet connections.

c) Information Education and Communication (IEC) Materials on Safe Online Learning: ICE (<https://education.nagaland.gov.in/>) materials on safe learning is an initiative to protect the children from clutches of cyber predators. This is because with the introduction of online teaching by schools, there were reports about possibility of online exploitation of children and increase in activity related to child sexual abuse materials.

d) Bright Tutee: Bright Tutee is a mobile application supporting learning of Mathematics and Science for classes 9 to 10. It has also offered broadcasting of live classes for classes 6 to 8 in the subjects of Mathematics and Science based on the books published by NCERT.

5.7 Sikkim: Various initiatives undertaken by State Government of Sikkim are:

a) Radio Programmes: Radio Programmes have been implemented by the Department of Education, Government of Sikkim in collaboration with AIR Gangtok and FM Kanchenjunga which started a Live Phone in Educational Broadcast Programme entitled “Stay Home, Study at Home” for students in Sikkim. The teachers have been imparting lessons on scheduled topics after which the phone lines are opened for the students to put forward questions and clear their doubts.

b) Samvaad TV: Samvaad TV- the local news channel of Sikkim has also been broadcasting video lessons for Science and Mathematics for students of classes 5 to 8 on a daily basis.

c) Sikkim Edutech: Sikkim Edutech is a mobile application which connects all the schools of Sikkim under the State Education Department. The teachers through this platform can plan their classes online and after completion of lessons can also give assignments online. Similarly, students can watch the lessons imparted online by the teachers and submit their assignments online to the teachers.

5.8 Tripura: Various initiatives undertaken by State Government of Tripura are:

a) Digitization of Textbooks: Digitization of books (<https://scerttripura.org/ebooks.php>) have been undertaken by the SCERT, Tripura where digitized textbooks of Class I to XII were made available in their website so that the students have access to digital copy of their textbooks from anywhere and continue their study.

b) State Repository of Open Educational Resources (SROER): SROER is a platform created under the initiative of SCERT, Tripura where 200 audio-visual contents for reference are made available. It also contains audio/video contents for students of classes VI to XII free of cost covering subjects like Bengali, English, Physical Science, Life Sciences and mathematics.

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

c) Creation and Telecast of E-classroom: Creation and telecast of E-classroom (<https://tripurainfo.com/OnlineClassesHomepageSearch.aspx>) is another initiative of SCERT where episodes of e-classes are recorded and transmitted over Doordarshan and Local Television Channels. The classes have been conducted for covering subjects like English, Maths, Science, Bengali, Social Sciences for classes III to XII.

d) EDUSAT Programme: EDUSAT programme has also been undertaken where live and interactive classes are imparted by the teachers for the students of classes VI to IX on the subjects Science, Mathematics, English, Physics and Chemistry. The students from far-flung areas of the state got the benefit from this initiative.

e) EmpowerU Shiksha Darpan: EmpowerU Shiksha Darpan is a mobile application which was already in use, is now being used as a facilitator for meeting the appraisal of students in annual examination for the academic year 2019-20 during the period of crisis caused by the pandemic.

6. Comparison of the Learning Initiatives: As the state governments of North-East India have undertaken significant initiatives of e-learning, this study has made an attempt to make a comparison among the states and show if a particular state is lagging behind the other states while undertaking such initiatives.

Table 1 shows that the state governments of Arunachal Pradesh and Assam have successfully undertaken the initiatives of learning such as digital classrooms, ICT labs, offline books or textbooks, Educational TV and Radio Channel, while the government of Manipur has been lagging behind. Digital classrooms are provided in all the states except Manipur, Mizoram and Nagaland. All the governments took the initiative of imparting lessons through educational TV (except Sikkim) and radio channels (except Mizoram and Tripura). Again, books or textbooks have been provided offline for continuation of learning in the states except Manipur and Mizoram.

States	Initiatives				
	Digital Classrooms	ICT Labs	Offline Books/Textbooks	Educational TV	Educational Radio Channel
Arunachal Pradesh	*	*	*	*	*
Assam	*	*	*	*	*
Manipur	-	-	-	*	*
Meghalaya	*	*	*	*	*
Mizoram	-	*	-	*	-
Nagaland	-	*	*	*	*
Sikkim	*	-	*	-	*
Tripura	*	-	*	*	-

Table 1: Learning Initiatives Undertaken by State Governments of North-East India

Source: India Report on Digital Education, 2020

Table 2 shows that among all the North-Eastern states of India, Meghalaya has adopted all the initiatives i.e. provision of E-books, creation of e-learning portal, computer based learning, development of mobile application and has also undertaken the digital initiatives of competitive learning. In this respect, Arunachal Pradesh, Assam and Mizoram have been lagging behind. E-learning portal has been created only in Manipur, Meghalaya, Nagaland and Sikkim while digital initiatives for competitive learning is only adopted in Meghalaya and Mizoram. Again, mobile application for learning has been developed in

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

Assam (Vishwa Bharati Assam), Meghalaya (CR School App), Sikkim (Sikkim Edutech) and Tripura (EmpowerU Shiksha Darpan). But the digital initiatives for competitive exams which is an important aspect is only undertaken by the states of Meghalaya and Mizoram.

States	Initiatives				
	E-Books	E-Learning Portal	Computer Based Learning	Mobile Application	Digital Initiatives for Competitive Learning
Arunachal Pradesh	-	-	*	-	-
Assam	-	-	-	*	-
Manipur	*	*	*	-	-
Meghalaya	*	*	*	*	*
Mizoram	-	-	-	-	*
Nagaland	-	*	-	-	-
Sikkim	*	*	-	*	-
Tripura	*	-	-	*	-

Table 2: Learning Initiatives Undertaken by State Governments of North-East India
Source: India Report on Digital Education, 2020

7. Conclusion: The Covid-19 pandemic has made a huge transformation in the education system of India in general and North-Eastern states in particular as teaching and learning processes are now getting conducted through online mode. But the North-Eastern states, while undertaking various learning initiatives, are still lagging behind in comparison to other states of the country such as Gujarat, and Kerala which are significantly developed. This is due to less infrastructural development such as lack of electricity and internet facilities, unavailability of electronic gadgets such as mobiles, laptops, PCs etc. in the hands of most of the students especially in the rural and remote areas and those who belong to marginalized sections of the society. For instance, in Gujarat, both the primary and secondary school departments have been undertaking various digital initiatives of learning for a very long time to connect teachers and students and provide quality educational content as for example Command and Control Centre (CCC) has been established in June 2019 to ensure 100% enrollment, improving regular attendance of students and teachers, etc., whereas in Kerala, Public Education Rejuvenation Mission was launched in 2016 with the aim of improving the quality and equity aspects of education and hence public education has been transformed through well planned, interactive, community supported, and globally competitive activities, all planned and guided by the General Education Department (India Report on Digital Education, 2020). Hence, the state governments of North East India should focus on proper infrastructural development and make necessary tools and equipment available to those individuals who are lacking them. Moreover, for proper implementation of this new mode of learning, proper training of teachers, students, faculties etc. are equally important. E-learning has now become the new normal, and it is very important for these states to take necessary steps to ensure equal and quality education.

References

Department of School Education & Literacy, Ministry of Human Resource Development, Government of India. (2020, June). *India Report on Digital Education*.
<https://www.mhrd.gov.in/>

How to Cite this Article

Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

- Jena, D. P. K. (2020a). Impact of Covid-19 on higher education in India. *International Journal of Advanced Education and Research*, 5(3), 77–81.
<https://www.alleducationjournal.com>
- Jena, D. P. K. (2020b). Impact of Pandemic COVID-19 on Education in India. *International Journal of Current Research*, 12(7), 12582–12586.
<https://doi.org/10.24941/ijcr.39209.07.2020>
- Ministry of Human Resource Development, Government of India. (2020). *COVID-19: Stay Safe Digital Learning Initiatives of Ministry of HRD*. <https://www.mhrd.gov.in/covid-19-stay-safe-digital-learning-initiatives-ministry-hrd>
- North Eastern Council Secretariat, Government of India. (2015). *Basic Statistics of North-Eastern Region*. <https://necouncil.gov.in>
- Raj, U. (2020). Indian education system in fight against Covid-19 pandemic. *International Journal of Creative Research Thoughts*, 8(7), 2084–2088. <https://www.ijcrt.com>
- Tarkar, P. (2020). Impact of Covid-19 pandemic on education system. *International Journal of Advanced Science and Technology*, 29(9), 3812–3814.
<http://sersc.org/journals/index.php/IJAST/article/view/16620/8320>
- UNESCO. (2020). *290 million students out of school due to COVID-19: UNESCO releases first global numbers and mobilizes response*. <https://en.unesco.org/news/290-million-students-out-school-due-covid-19-unesco-releases-first-global-numbers-and-mobilizes>
- UNESCO. (2020). *Global Education Monitoring Report*. <https://en.unesco.org/news/global-education-monitoring-gem-report-2020>

How to Cite this Article

- Dutta, A. (2021). State Government Initiatives on Education in North-East India during Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 26-33). Badan Barman.

Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak

Dr. Jagadeesh Basapur

Assistant Professor, K.S. College of Education, Ballari

Email: jbbshreyas@gmail.com

&

Dr. Kotresh Basapur

Principal, R.T.E.S. College of Education, Ranebennuru

Email: kotreshbasapur@gmail.com

Abstract

This paper highlights the Vidhyagam program initiated by the Karnataka state government. It describes the vision of the program, its objectives, parts of the program, handling the responsibilities and challenges faced in its implementation.

Keywords: Vidhyagam, Karnataka State Government Educational Initiative during Covid-19, Kshira Bhagya

1. Introduction: The Karnataka state government has taken the step to connect the students, teachers and other officials related to education through the “Vidhyagam” program. Through the Vidhyagam the teachers can impart the education to students in the lockdown imposed due to Covid-19 pandemic.

“Vidhyagam” in its literally form is vidhy+Agam=Arrival of education in the vicinity and comfortable zone of the students/learner.

2. Vision: “No child’s dream should be affected by natural calamities, pandemics and other disasters to make their dream true”.

3. Objectives: Vidhyagam program launched keeping in view of the following objectives-

- i) Continue the learning of children at this critical moment of closure of schools.
- ii) Planning the program in such ways so that all children are covered in the program.
- iii) Connecting the teachers with students till the schools get open.
- iv) Supply the text books /worksheets/ workbooks through parents to students to motivate them to learn.
- v) Supply the mid-day meal food items and kshira bhagya (Milk powder) materials to students through the parents.
- vi) Avoid the child labor, child marriages and other social evils.
- vii) Improve and strengthen the confidence of the students to face the worst situation.
- viii) Confirm the no drop out from the school.
- ix) A special priority should be given to special children, nomads and migrated.
- x) Involve the School Development and Monitoring Committee (SDMC), administrators, volunteers, parents and community people in the program.

4. Vidhyagam Program: The Vidhyagam program launched by the Karnataka state government includes the following-

a) Classroom Concept: In order to achieve the stated objectives 3-type of imaginary classrooms are suggested. They are

i) Type-1 Classroom: A classroom without any type of electronic gadgets.

ii) Type-2 Classroom: A classroom with mobile but without internet.

How to Cite this Article

Basapur, J., & Basapur, K. (2021). Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 34-37). Badan Barman.

iii) Type-3 Classroom: A Classroom with Smartphone/ Tablet/ computer/ laptop with internet facility.

b) Face to Face Meeting: In all the above said type of classroom ‘guidance teacher’ should meet the students at least once in a week to check the progress and achievement of the students.

c) Textbooks: the pdf versions of the textbooks are uploaded in D.S.E.R.T. website as well as public library website. Fortunately, the textbooks are printed before covid-19 lockdown hence the text books are supplied to the students through their parents to all government, government- aided, and private-unaided schools.

d) Method of Teaching: The following method of teaching is followed in the Vidhyagam program.

i) All the subjects are handled by the guidance teachers for class 1 to 5th standards.

ii) Guidance teacher should coordinate with subject teachers of school in the case of class 6 to 10th standard.

iii) The worksheets/ Learning plan/ Learning materials should be prepared and supply by the concerned subject teachers to the coordinating (or) guidance teacher.

iv) The formative assessment question papers should supply to the students. The suitable remedial program should be organized after evaluation of the answer sheets.

v) The formative question papers can also be downloaded from DSERT website.

e) ‘Samveda’ T.V. Program: Engage the class through Chandana channel (Government Channel) from class 1 to 10. The time-table of broadcast is provided through newspapers, SMS and other social Medias.

f) Makkala Vaani: It is another platform of learning through T.V. where more emphasis is given to learn through learning by doing activities, play way methods and self involvement of learners. It is a one hour program.

g) YouTube Classes: The English and Kannada medium classes’ teachings are uploaded to YouTube channels of DSERT’S “Gnana Deepa” portal. It helps those students to learn who are unable to watch the live program.

h) Bridge Course Program: A supportive program for “Samveda” Classes, through TV conducted for class 8th to 10th standard students. After completion of the bridge course classes the “samveda” classes started.

i) Mechanisms to Manage the Individual Differences: In this critical condition also the ‘Vidhyagam’ program is well knitted with some mechanisms to manage the special children and others. The children of wanderers, migrants and nomads are enrolled in the imaginary classroom without any formal documents. The parents’ permission and consent is enough to get admitted into the imaginary class rooms.

The physically challenged and deaf children are supported by NIOS sign language TV Channels to learn.

j) Psychological Support: The program included with the psychological support for all the stakeholders. Hence, the link is given to “Manodarpan” which is started under the Human Resource Development ministry (Now Ministry of Education). The Psychological stress, needs of adolescents, problems of families and other problems are going to address through this program. The 7 page life skill education hand book is uploaded in this regard.

5. Distribution of Responsibilities: In order to implement the program effectively the work is distributed among ‘Guidance Teacher’, Headmaster, SDMC presidents and members, administrative staffs, district public officials, NGO’s and parents. In the Vidhyagam program the distribution of the responsibilities were done as per the following-

How to Cite this Article

Basapur, J., & Basapur, K. (2021). Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 34-37). Badan Barman.

a) Guidance Teachers: The guidance teachers are the regular school teachers of the government schools. One guidance teacher is deputed to the 15-10 students 'neighbor group' (students in a particular geographical area) to look after the activities of the 3 types of classrooms in the case of 1 to 5th standard and one such guidance teacher should coordinate with other subject teachers in the case of 6 to 10th standard. The responsibilities of the guidance teachers are as follow

- i) Identify the 'neighbor children' and organize 'neighbor children group'.
- ii) Coordinate between other subjects teachers.
- iii) Identify the Guest teachers/graduates working for the implementation of the program.
- iv) Upload the data of learning regularly to the student's portal.

b) Head Master: He/she is government school Head. His/her responsibilities are-

- i) Motivate the guidance teacher to work.
- ii) Conduct regular meetings with other subject teachers.
- iii) Identify the NGO to take part in the program.
- iv) Coordinate between the other authorities.
- v) Preparation of the plan for continuous learning.

c) B.R.P./B.E.O: Taluka level Government official's responsibilities are-

- i) Visit the imaginary classrooms through different modes both online and offline.
- ii) Attend the coordination meeting conducted by Heads of the school.
- iii) Submit the report to higher authority every week.
- iv) Guide and support the teachers.

d) Deputy Director for Public Instruction (DDPI): He/she is the district head for Education. His/her responsibilities are-

- i) Observe the children portfolio submitted by the schools forwarded by H.M./B.R.C./B.E.O.
- ii) Identify the NGO's, other charitable trusts to participate in the program.
- iii) Coordinate Z.P. and Town Municipalities to smooth implementation of the program.

e) D.C/CEO(ZP): He/she is the district administrative head. His/her works are-

- i) Facilitate the schools and teachers with internet and other suitable techniques/methods to carry the program smoothly.
- ii) Co-ordinate the different officials and public representatives like M.L.A., M.P., M.L.C.

f) SDMC: The committee is headed by the president and chosen by the parent council to ensure the quality in school education on behalf of parents of the children. His/her responsibilities are

- i) Motivate the graduate, young people to get involved in the 'Vidhyagam' program.
- ii) Ensure the admission of students in any of the three types of classroom.
- iii) Help the officials to avoid and stop the child labor and child marriages.

6. Challenges: Apart from the proper planning of the program, many challenges are faced by the students, teachers and others who are involved in the program. Some of such challenges are as follows-

- i) Risk of the teachers and students to get affected by covid-19 is hindrance to implement the program.
- ii) Parent's co-operation and other stakeholders co-operation is not promise-able.
- iii) Lack of motivation and facilities to implement the program.
- iv) Less priority to education than livelihoods weakens the program.
- v) Problem of suitable place to run the face-to-face "vatara school" (Veranda).
- vi) Lack/No training to teachers to handle the online classes.
- vii) Problem of accountability in all dimensions.
- viii) Ignorance of students and parents about the program.

How to Cite this Article

Basapur, J., & Basapur, K. (2021). Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 34-37). Badan Barman.

ix) Not possible to conduct summative assessment.

7. Conclusion: The preparation to engage the learners in this covid-19 pandemic situation through Vidhyagam program is a good initiative. The “Makkalvaani” TV channel program, Samveda program and bridge course program are interlinked and very creative. The lessons are useful for learners. The program is still not reaching many stakeholders because of less (or) no proper advertisements. Neither critical comments nor constructive feedback are given by the parents, educationists, experts to the program. No debate is held in mass media, social media on the program and its implementation. Even a single article is not published in journals or newspapers on the ‘Vidhyagma’ program. There is another problem that is the government did not insist on the private school to engage in such classes. So, private schools adopted their own mechanisms to reach their students. There is no uniformity between government program and private schools program in teaching and learning mechanisms in the critical situation that arise due to covid-19.

References

Prajavani (2020). Vidhyagam Scheme is Running in Mysore.

<https://www.prajavani.net/district/mysore/vidhyagam-scheme-is-running-in-mysore-758300.html>

How to Cite this Article

Basapur, J., & Basapur, K. (2021). Vidhyagam: An Education Initiative Program of Karnataka State Government during Covid-19 Outbreak. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 34-37). Badan Barman.

Students' Perceptions on the Use of Google Classroom as an E-learning Platform

Dr. Nirmali Chakraborty

Librarian, Sipajhar College, Sipajhar, Darrang

Email: nirmalichakraborty1@gmail.com

Abstract

Adoption of Google Classroom platform as an e-learning tool in higher institutions is increasing day by day. It is one of the most popular e-learning systems adopted by many countries all over the world. This quantitative survey paper examines the perceptions of 30 PG students from three different universities and has come with positive opinions towards the different aspects of Google Classroom as an e-learning platform. However, the results are difficult to generalize since convenience sampling technique was adopted to select the respondents. In addition, although the study admits that moderators such as gender, demography, IT skill etc. may influence the results, which are not highlighted in the study.

Keywords: E-Learning Platform, Google Classroom

1. Introduction: Google Classroom allows us to create a virtual room or a virtual classroom in which a teacher or a student can create a class and add classmates and other teachers anywhere around the globe. During this pandemic, academic fraternity is bound to go for e-learning and it is found that Google Classroom is really easy and very convenient even for those who are not much techno savvy. Teachers don't face hard time using this tool.

Google Classroom assists in smooth communication between teachers and students by integrating docs, sheets, slides, gmail, and calendar into a single platform. Here students are invited to join a class through a private code, or automatically imported from a school domain. Teachers can create, distribute and mark assignments all within the Google ecosystem. Each class creates a separate folder in the respective user's Drive, where the student can submit work to be graded by a teacher. Assignments and due dates are added to Google calendar, each assignment can belong to a category or topic. Teachers can monitor the progress for each student by reviewing revision history of a document, and after being graded, teachers can return work along with comments.

Google Classroom is designed to be as easy to use as possible, so originally it was providing one class Stream for teachers and students to share new content and ideas. But a single stream, while simple, became too crowded, and it was hard for teachers and students to find what they needed. That is why a new Classwork page was introduced, which lets teachers better organize the assignments and questions by grouping them into modules and units.

With a dedicated page for Classwork, the Stream can be a better hub of class discussion and activity. It is conveniently organized in a separate page to reduce mess so that the students can have discussions in the Stream to develop their online communication skills within their classroom community. Thus, from the very beginning, Google Classroom focused on simplifying technology, so that teachers and students could spend time on learning not on technology.

2. Functions of Google Classroom: Different types of users can perform different functions through Google Classroom which are tabulated below–

a) Teachers

- i) Create and manage classes, assignments, and grades online without paper.
- ii) Add materials to the assignments, such as YouTube videos, a Google Forms survey, and other items from Google Drive.

How to Cite this Article

Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 38-43). Badan Barman.

- iii) Give direct, real-time feedback.
- iv) Use the class stream to post announcements and engage students in question-driven discussions.
- v) Push content to students' screens.
- vi) Invite parents and guardians to sign up for email summaries with a student's upcoming or missing work.

b) Students

- i) Track classwork and submit assignments.
- ii) Get feedback and grades.
- iii) Share resources and interact in the class stream or by email.
- iv) Share screen with a teacher.

c) Guardians

- i) Get an email summary of the student's work.
- ii) Review announcements and activities.

d) Administrators

- i) Protect data and set permissions for users.
- ii) Set up classes and rosters.
- iii) Create, view, or delete any class.
- iv) Add or remove students and teachers from classes.
- v) Get 24/7 support.

3. Facilities Available on Google Classroom: Google Classroom generally provides the following facilities-

- i) Stream
- ii) Classwork: Within the Classroom there is a scope for Topic, Assignment, Quiz Assignment, Question, Material, Reuse, Google Calendar and Class Drive Folder.
- iii) People
- iv) Grades and
- v) Setting

4. Types of Google Classroom User Accounts: Depending on the learning setting, there are different types of accounts for Classroom. These are-

a) Personal Google Account: A personal Google Account is one that we create. We are likely to use it with Classroom outside of a school setting, such as a tutoring center or homeschool. In case of personal account, the limit of teachers for a single class is 20 whereas the limit of teachers and students together for a single class is 250. Moreover, in a single day the number of invitation that can be sent by a teacher to join a class is 100. Similarly, here 100 number of participants can attend video meet together. Again, teachers can't invite guardians to sign up for email summaries. Moreover, there are some other limitations like lack of originality checking of assignment, lack of grade importing, students can't email classmates and so on.

b) Google Workspace Account: A Google Workspace (formerly G Suite) account is typically used in large organizations that run Google Workspace Business Starter, Business Standard, Business Plus and Enterprise, or Google Workspace for Nonprofits and Education. Organization's admin creates and manages these accounts and gives email address and password to the participants. Children aged 13 and under should only use Classroom with a Google Workspace for Education or Nonprofits account. Google Workspace versions are of following types -

i) Google Workspace for Education: Google Workspace for Education is a suite of free Google tools and services that are tailored for schools, colleges and universities. It is

How to Cite this Article

Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 38-43). Badan Barman.

available globally to all educational institutions that qualify. Google reserves the right to determine an organization's eligibility for Google Workspace for Education. It takes around 2 weeks to process an application; however, in response to COVID-19 global school closures, it is expediting school approvals for Google Workspace for Education. Here the limit of teachers for a single class is 20 whereas the limit of teachers and students together for a single class is 1000. Moreover, in a single day the number of invitation that can be sent by a teacher to join a class is 500. Moreover, here 100 number of participants can attend video meet together. Again, teachers can invite 20 guardians to sign up for email summaries. Moreover, there are some other features like originality checking of assignment, scope for grade importing, and so on.

ii) Google Workspace Business Starter Edition: Google Workspace Business Starter edition is a suite of collaborative productivity apps that offers professional email, shared calendars, online document editing and 30 GB storage, video meetings etc. It costs Rs. 125/- per user per month. With Google Workspace Business Starter, users can get following features –

- i) Gmail: Send and receive mail using professional address.
- ii) Calendar: Share calendars to easily schedule meetings and events.
- iii) Docs: Collaborate in real-time on online documents, spreadsheets, and presentations.
- iv) Drive: Store and back up files securely in the cloud.
- v) Meet: Video meetings with upto 100 participants.

Moreover, it has administrative control features like –

- i) Manage user accounts and security settings from a central Admin console.
- ii) Control user access to features and services
- iii) Remotely manage mobile fleet.
- iv) Track usage trends via audits and reports.
- v) Receive 24/7 support from Google Workspace experts.

iii) Google Workspace Business Standard Edition: G Suite Business edition includes everything available in Google Workspace Business Standard, with some additional features costing Rs. 672/-per user per month. It provides 2 TB storage and archiving which can be distributed within Gmail messages, Google Photos, and files in Drive. Organizations that received a Google for Nonprofits discount, or have 4 or fewer users, get 1 TB of Google Drive storage for each user. With shared drives, files belong to a team instead of an individual. If members leave, files stay where they are so the team can continue to share information and get work done. With Google Workspace Business Standard, users can get following features –

- i) Business email through Gmail.
- ii) Video and voice conferencing.
- iii) Team messaging.
- iv) Shared calendars.
- v) 2 TB cloud storage (or 1TB per user if fewer than 5 users).
- vi) Documents, spreadsheets, and presentations.
- vii) Presentation builder.
- viii) Professional surveys builder.
- ix) Website builder.
- x) Shared notes.
- xi) Engage employees.
- xii) Automate, integrate, and extend with Google Workspace.
- xiii) Smart search across Google Workspace.

Moreover, it has administrative control features like –

- i) 24/7 standard support.
- ii) Admin Security and administration controls.

How to Cite this Article

Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 38-43). Badan Barman.

- iii) Archive and set retention policies for emails and chats.
- iv) Data regions for Google Workspace.
- v) Enterprise-grade access control with security key enforcement.
- vi) Advanced Protection Program.
- vii) Vault Retain, archive and search data.
- viii) eDiscovery for emails, chat, and files.
- ix) Audit reports to track user activity.
- x) Endpoint Management.
- xi) Remotely manage mobile fleet.

iv) Google Workspace Business Plus Edition: Google Workspace Business Plus edition includes everything available in Google Workspace Business Standard, with some additional features costing Rs. 1260/-per user per month. It provides 5 TB storage and archiving. Premium office suite with enhanced security, controls, and customization. With Google Workspace Business Plus, users can get following features –

- i) Gmail: Business email through Gmail.
- ii) Meet: Video and voice conferencing.
- iii) Chat: Team messaging.
- iv) Calendar: Shared calendars.
- v) Drive: 5 TB cloud storage (or 1TB per user if fewer than 5 users).
- vi) Docs: Documents, spreadsheets, and presentations.
- vii) Sheets: Spreadsheets.
- viii) Slides: Presentation builder.
- ix) Forms: Professional surveys builder.
- x) Sites: Website builder.
- xi) Keep: Shared notes.
- xi) Currents: Engage employees.
- xi) Apps Script: Automate, integrate, and extend with Google Workspace.
- xii) Cloud Search: Smart search within and outside of Google Workspace.

Moreover, it has administrative control features like –

- i) 24/7 priority support.
- ii) 1 hour target response time for critical issues.
- iii) Designated Google advisor (minimum 1000 seats).
- iv) Admin Security and administration controls.
- v) Archive and set retention policies for emails and chats.
- vi) Data regions for Google Workspace.
- vii) Security center for Google Workspace.
- viii) Data loss prevention for Gmail.
- ix) Data loss prevention for Drive.
- x) Hosted S/MIME for Gmail.
- xi) Integrate Gmail with compliant third-party archiving tools.
- xii) Enterprise-grade access control with security key enforcement.
- xiii) Gmail log analysis in BigQuery.
- xiv) Advanced Protection Program.
- xv) Vault Retain, archive and search data.
- xvi) eDiscovery for emails, chat, and files.
- xvii) Audit reports to track user activity.
- xviii) Cloud Identity, Premium Manage users, devices, and apps.
- xix) Endpoint Management.
- xx) Remotely manage your mobile fleet.
- xxi) Context aware access.

How to Cite this Article

Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 38-43). Badan Barman.

5. Objectives of the Study: The study is based on the following objectives –

- i) To find out students' compatibility with online teaching-learning process.
- ii) To find out students' perceptions on the use of Google Classroom.
- iii) To find out the problems faced by the students in using Google Classroom.

6. Methodology: This is a survey based study. For this study telephonic interview was conducted among 30 Post Graduate students of three different universities. Convenient sampling technique was adopted in selecting the respondents. The study is quantitative in its approach.

7. Findings: The findings can be divided under the following major sub-headings

a) Students' Compatibility with Online Teaching Learning Process: Here it is seen that, majority of the students are compatible with the technological changes occurred in their teaching learning process. Moreover, they had fantasy to learn through technology. Therefore, they hardly faced any major challenge in accepting online learning.

b) Students' view on Using Google Classroom: In general, the students expressed their positive views of learning through Google Classroom. Especially the students recognize the value of interactive sessions with their teachers and peers through Google Classroom as they receive from lecturer and peers. Moreover, they gained new experience by using Google Docs, Google slides, Google drive, Google calendar etc.

c) Students' Satisfaction on the Interactions Between Teacher-Students and Students-Students through Google Classroom: In general, students have positive opinions towards the teacher and their peers' communication through Google Classroom. However, the first task of the teacher is to push students actively in giving comments, and involving in the discussion which is considered as a hard work for the teachers. Then, inviting students to participate through Google Meet is another task that they need to complete. Moreover, teacher can bring Google Docs into the classroom that helps half of the teacher's task to persuade students as active learners. The writing class could make good use of Google Docs as an interactive platform for teaching-writing. It provided either for the lecturer or students to be able to exchange

d) Students' Awareness on the Features Available on Google Classroom for Students: Here it is found that majority of the respondents are aware of the features available on Google Classroom for students. They are aware that they can track classwork like topics, assignment, quiz assignment, question, material, class drive folder, Google calendar etc. Moreover, they are also aware that they can submit assignments, get feedback, share resources and interact in the class as well as share screen with a teacher.

d) Limitations of Online Learning through Google Classroom: Here respondents have pointed out some limitations of online learning through Google Classroom; these are – students not receiving invitation sent to them, unclear audio in Google meet, network problem, power cut problem, etc.

8. Conclusion: Technology is changing rapidly in modern time, and the learning is changing due to technological changes. Adoption of Google Classroom platform as an e-learning tool in higher institutions is increasing day by day. It is one of the most popular e-learning systems adopted by many countries all over the world. This quantitative survey paper examines the perceptions of 30 Post Graduate students from three different universities and has come with positive opinions towards the different aspects of Google Classroom as an e-learning platform. However, the results are difficult to generalize since convenience sampling technique was adopted to select the respondents.

How to Cite this Article

Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 38-43). Badan Barman.

References

- Barman, B. (2020). A comprehensive book on Library and Information Science. New Publications.
- Google (2020, August, 15). Classroom Help. https://support.google.com/edu/classroom/answer/6020293?hl=en&ref_topic=9050121
- Google for Education (2020, April, 28). Google Classroom 101 [Video File]. <https://www.youtube.com/watch?v=UEFgW--0094>
- Google. (2020, August, 15). Classroom Help: About Classroom . https://support.google.com/edu/classroom/answer/6020279?hl=en&authuser=1&ref_topic=7175444 (Retrieved on 15/08/2020)
- Google. (2020, August, 15). Time for a Refresh: Meet the new Google Classroom. <https://www.blog.google/outreach-initiatives/education/time-refresh-meet-new-google-classroom/>

How to Cite this Article

- Chakraborty, N. (2021). Students' Perceptions on the Use of Google Classroom as an E-learning Platform. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 38-43). Badan Barman.

Learning at Home: Engagement of Academic Community during COVID-19 Pandemic

Mr. Debashis Pratim Sarma

Program Leader, Piramal Foundation

Email: debashispratim.sarma1@gmail.com

Abstract

This study concentrates on understanding the engagement of the academic community in webinars during COVID-19. A questionnaire was prepared and distributed among the post graduate students, M.Phil and Ph.D. research scholars and working professionals of Central University of Tamil Nadu, Gauhati University, Mizoram University, North-Eastern Hill University, Tezpur University and Tripura University and their responses were recorded, analyzed and presented.

Keywords: Webinar, Webinar User Survey, Education during Covid-19

1. Introduction: A webinar is a web-based presentation, lecture, workshop conducted over the internet using video conferencing software. A webinar allows people to access real-time quality online education at home via the internet. Now, a learner may access knowledge and skills without investing in transportation or accommodation and the host need not require to invest in arrangements, saving cost for both parties.

Due to COVID-19 pandemic, the prohibition of traditional conferences and seminars saw the sudden rise of webinars to great numbers. The age of the digital world has impacted the teaching and learning process significantly and with increased usage of technology is influencing the new academic culture.

2. Literature Review: Webinar enables the audience to participate in a session beyond geographical boundaries without investing in travel cost and attend in a personalized environment. Especially the personalized space relaxes introverted learners from nervousness. Emphasizing on delivering conceptual knowledge than procedural knowledge for the webinar is preferred by participants. The instructor should promote a highly interactive lesson plan and engaging session for smooth flow (Wang & Hsu, 2008). With the advent of technology, the process of transition from traditional to technology-based learning habits has begun. Multimedia aids such as power-point presentation, audio-visual contents, etc. started getting used in the classroom. Techniques such as E-Mentoring and E-learning, Webinar have provided learners with the opportunity of learning at their own pace and comfort (Verma & Singh, 2010). Usage of multiple-choice questions and answers and immediate feedback engaged medical students in the session more actively. The instructor kept the answers hidden until everybody responded. This process led students to self-evaluation, ultimately stimulating interest in subjects (Mayorga, EP & Bekerman, JG & Palis AG, 2014). One of the advantages of the webinar is that it can be recorded for future viewing. This helps students and instructors both. An instructor may be able to re-watch the session for self-need assessment and to learn efficient management. One of the disadvantages is that a presenter requires to take body language, background, environment, etc. into consideration to keep the audience's attention. Also, the audience may choose not to show their face or to speak, resulting in the presenter unable to follow whether participants are giving attention or not. Engagement in a webinar also depends on the availability of internet connectivity of the participants and host. Issues such as transmission delay, audio-video disconnection may potentially break the fluency of a webinar (Ahrens & Zašcerinska, 2015). Using visually attractive slides, frequent interactive surveys and discussing pre-designed questions in chat during the webinar attracts attention from the participants (Smirnova &

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 44-50). Badan Barman.

Kamenez, 2019). Among Traditional face-to-face, asynchronous online instruction and Webinar; the webinar was found to be more effective concerning student learning, even though the difference is marginal. But about student satisfaction, among all three face-to-face instruction was found to be more favoured by students followed by webinar and asynchronous online instruction was least favoured (Ebner, Christian & Gegenfurtner, Andreas, 2019).

3. Objectives: COVID-19 pandemic has produced a unique challenge to the world. Academics is no exemption. Due to the pandemic, the academic world saw the transformation from traditional mode to technology-based platforms. The webinar is also such a technology-based method most of the academic organizations are using to perform different teaching-learning programs. This study was conducted to observe the engagement of the academic community with a webinar during the pandemic. Three structured objectives considered for the study were as follows-

- a) To observe the engagement of participants with webinars
- b) To understand the requirements of participants
- c) To find out the issues and challenges faced by participants

4. Methodology and Scope: For this study, a random sampling method was adopted. At the first phase, an online questionnaire was distributed randomly among the PG students, Research Scholars and faculty members of the Central University of Tamil Nadu, Gauhati University, Mizoram University, North-Eastern Hill University, Tezpur University and Tripura University. In the second phase, the respondents were asked to circulate the questionnaire among the other members of the academic community through different social media platforms. The responses were recorded within the time frame of March-June 2020. All the responses were downloaded in excel format and data were analyzed and presented with some informative tables and figures.

5. Analysis: The responses were analyzed under the following headings and subheadings-

a) Participants: Out of 156 individuals participated in this survey, 67 were postgraduate students, 14 M.Phil. Students, 33 Ph.D. scholars and 42 Working professionals.

Designation	No.	Percentage
Post Graduate	67	43%
Working Professional	42	27%
Ph.D.	33	21%
M.Phil.	14	9%
Total	156	100%

Table 1: Designation of Participants

b) Self-assessment of attention and satisfaction by webinar attendees: Among 156 individuals self-assessed their average attention during the webinar, 1 being the least and 10 being the most, 16 participants marked between 1-4, 119 people noted their average attention is between 5-7 and 21 participants marked themselves between 8-10.

Attention Level	No. of Responses	Percentage
Low 1-4	16	10%
Medium 5-7	119	76%
High 8-10	21	14%

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

Total	156	100%
--------------	------------	-------------

Table 2: Attention in Webinars

Among self-assessed 156 individuals about their average satisfaction during the webinar, 1 being the least and 10 being the most, 27 participants marked between 1-4, 115 people noted their average attention is between 5-7 and 14 participants marked themselves between 8-10.

Satisfaction Level	No. of Responses	Percentage
Low 1-4	27	17%
Medium 5-7	115	74%
High 8-10	14	9%
Total	156	100%

Table 3: Satisfaction of Participants with Webinar

c) Platform used for webinar conduction: Out of 156 individuals participated in this survey, 84 individuals used Zoom, 41 individuals used Google Meet, 6 individuals used Microsoft Team, 14 individuals used Cisco Webex, 8 individuals used GoToWebinar and 3 individuals used other platforms to join in the webinar.

Webinar Platform	No. of Responses	Percentage
Zoom	84	54%
Google Meet	41	26%
Microsoft Team	6	4%
Cisco Webex	14	9%
GoToWebinar	8	5%
Others	3	2%
Total	156	100%

Table 4: Platform used for webinars

d) The objective of the participants: In this question the participants were given the option to select multiple responses. Out of 156 participants, 116 responses received in favour of attending webinars in their subject area, 82 responses were in favour of webinars related to hobbies and interests, 77 responses were in favour of webinars which were awareness related and 55 responses were in relation to the webinar which was skill associated.

Theme of the Webinar	No. of Responses
Strictly to your subject area	116
Hobbies and Interests	82
Awareness related	77
Skill related	56

Table 5: Objective of the Participants to Attend the Webinar

e) Purpose of Webinar Attended: Out of 156 individuals participated in this survey, 52 individuals joined webinars to learn, 31 individuals joined to get a certificate and 73 individuals joined a webinar to learn and also to get a certificate.

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

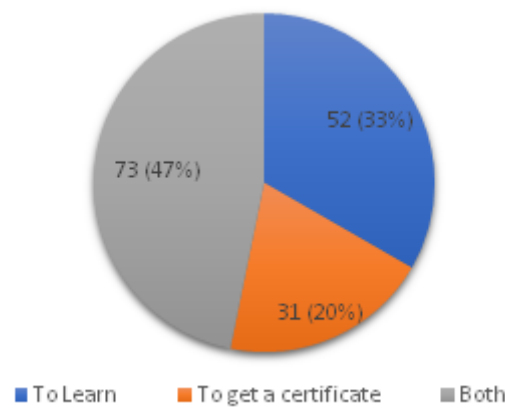


Figure 1: Purpose of webinar attendance

In another question, the participants were asked what the individual most likely would do if a webinar attracts the individual but does not provide a certificate. Out of 156 participants, 74 say that they would still attend the webinar, 68 say that they would search for a similar webinar with a certificate and 14 say that they would ignore the webinar.

Webinar without a Certificate	No. of Responses	Percentage
Still attend	74	47%
Search similar webinar with certificate	68	44%
Ignore the webinar	14	9%
Total	156	100%

Table 6: Attending a Webinar without a Certificate

f) Ideal Length of a webinar: 23 participants say that a webinar should be less than 1 hour, whereas 87 participants think that an ideal length of the webinar should be between 1-2 hours and 46 individuals feel that the length should be in between 2-3 hours.

Ideal Length	No. of Responses	Percentage
<1 Hour	23	15%
1-2 Hours	87	56%
2-3 Hours	46	29%
Total	156	100%

Table 7: Ideal length of webinars

g) Ideal Day of Webinar: According to 68 participants, the webinar should be organized in the early week whereas 17 people say that it should be organized in mid-week and 71 individuals think that it should be arranged on the weekend.

Ideal Day of Webinar	No. of Responses	Percentage
Early Week	68	44%
Mid-Week	17	11%
Weekend	71	45%
Total	156	100%

Table 8: Ideal day of the webinar

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

h) Challenges Faced by the Participants: Out of 156 participants, 72 had network issues during a webinar, 39 individuals had audio-visual issues, 17 participants felt hard to understand due to complex content and 28 participants experienced monologue from the host.

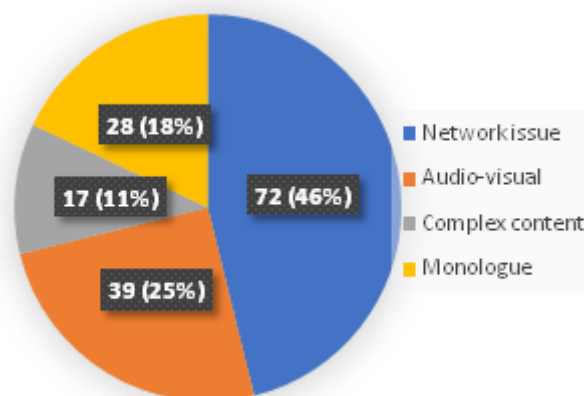


Figure 2: Challenges faced by the participants

i) Live Question Answer Session: 127 participants agree that live question-answer session in a webinar is needed whereas 18 people disagree with it. 11 participants are not sure about their needs.

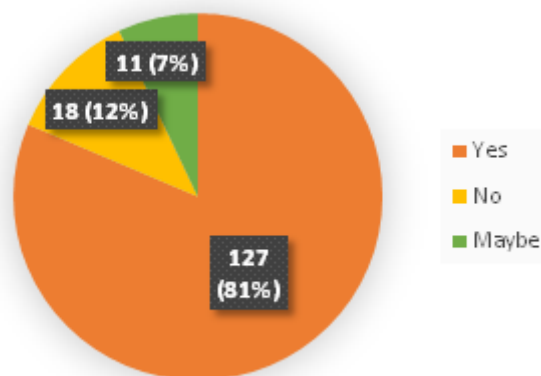


Figure 3: Challenges faced by the Participants

j) Source of information about the webinar: 61 participants reported that they came to know about the webinar from institute websites, whereas 72 individuals said that they were informed from social media. 23 people said that they got to know from personal references.

Source of Information	No. of Responses	Percentage
Institutional website	61	39%
Social Media	72	46%
Personal	23	15%
Total	156	100%

Table 9: Source of Webinar Information

6. Engagement of Participants: Data from the survey indicates that the webinar has been able to attract attention from the higher education students and working professionals in academia. 90% of the participants reported that they were able to provide attention in between medium to high range. 83% of participants note their satisfaction between medium

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

to high. This certainly points towards the effectiveness of webinar and the engaging nature of it. Regarding platform, most of the participants used Zoom (54%) and Google Meet (26%) to connect to webinars showing the popularity of it among the webinar hosts. The study also shows that people got to know about webinar mostly from social media (46%), followed by the institutional website (39%) and lastly by personal references (15%). This shows that information regarding webinar gets more disseminated through institutional websites and social media. These two modes attract more attention from potential participants.

7. Requirements of Participants: Participants chose to join webinars strictly to his/her subject area as far as possible which is maximum (35%) followed by hobbies and interests (25%). People also attended awareness related (23%) and skill-related (17%) webinars. This signifies the preference of the participants while opting for webinars. A maximum number of individuals (47%) said that they joined webinar intending to learn and also to get a certificate followed by participants who joined to learn (33%) and lastly some respondents (20%) reported that they joined webinars to get a certificate. Among the participants, 44% of people said that even though a webinar attracts them, but does not provide any certificate for it, they would search for a similar webinar which would provide a certificate. 47% respondents note that they would still join the webinar and 9% surveyed individuals reported that they would ignore it. It indicates that even though most of the participants are looking for knowledge, providing a certificate may attract more participants. 56% participants suggest that a webinar should be in between 1-2 hours in length followed by respondents (29%) who think that it should be between 2-3 hours and lastly 15% people think that the ideal length of the webinar should be in between 2-3 hours. Among the participants, 45% think that ideally webinar should be conducted on the weekend whereas 44% of respondents vote for an early week. 11% surveyed individuals said that the ideal days were mid-week. This points out that the participants prefer those webinars which are conducted either in early weekdays or weekend days and in between 1-3 hours in length. 81% of people inform that they prefer to have a live Question-Answer session in a webinar, whereas 12% of participants vote against it. 7% of respondents remain undecided about it. This shows that having a live question-answer session will engage the users more with a webinar and participants like to have an opportunity to clear doubts.

8. Issues and challenges faced by participants: Network issue (46%) is the most reported challenge tackled by the participants followed by audio-visual (25%) issue. 18% of individuals point out the monologue as an issue from the host in webinars whereas 11% of respondents account for the complex nature of content. This indicates that guests prefer to have two-way communication during a webinar. One individual said that many of the webinars just cover basic understanding than going into the deeper level, which ultimately reduced interests from the guests. One of the participants said that the host should be attentive towards the network connectivity of the participants. One respondent reported that many of the participants are unaware of the software, and there is a need for capacity building for that as well. Another commented that due to the frequent and increasing number of webinars might reduce participants' interest in it.

9. Suggestions: The information of the webinar should be shared through social media and institutional websites to draw more guests. The host should prepare crisp and clear course content with audio-visuals to attract the guests. Conducting webinars during early-week or weekend may appeal to more people to join. A webinar of 1-3 hours is ideal to organize. To keep the participants engaged, live poll, pre-prepared question answers can be used. Providing a certificate may grab interest from people. Live Question-Answer session at the

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

end of the webinar is important as it provides the opportunity for users to clear doubts from the experts.

10. Conclusion: A webinar is an affordable teaching-learning tool to facilitate synchronous communication. As webinar supports real-time audio-visual content demonstration, it attracts students to get engaged with. Webinars can be recorded as well for future reference and viewing. One major disadvantage of the webinar is that the instructor may not be able to see the guests, hence unable to determine how much attention participants are paying. The absence of view of the body language may lead to misunderstanding or confusion as well.

Even though the webinar has been existing for years, it is still relatively new to academia. The teachers and students are still in need of building capacity around it and their experience needs to be analyzed.

Webinar will successfully create and deliver online content if invested towards technical capacity building of educators, ensure engagement of participants and experience of educators and students are analyzed for developing course content.

References

- Ahrens, A., Zascerinska, J., Melnikova, J., Hariharan, R., Clipa, O., & Andreeva, N. (2015). Use of Webinars in Higher Education: A Comparative Study of Educators' Experience. *Trends in Science and Studies Under Conditions of Globalisation, Volume: 1*. https://www.researchgate.net/publication/295911791_Use_of_Webinars_in_Higher_Education_A_Comparative_Study_of_Educators'_Experience.pdf
- Ebner, C., & Gegenfurtner, A. (2019). Learning and Satisfaction in Webinar, Online, and Face-to-Face Instruction: A Meta-Analysis. *Frontiers in Education, 4*, 92. <https://doi.org/10.3389/feduc.2019.00092>
- Gegenfurtner, A., & Ebner, C. (2019). Webinars in higher education and professional training: A meta-analysis and systematic review of randomized controlled trials. In *Educational Research Review* (Vol. 28). Elsevier Ltd. <https://doi.org/10.1016/j.edurev.2019.100293>
- Mayorga, E. P., Bekerman, J. G., & Palis, A. G. (2014). Webinar software: A tool for developing more effective lectures (online or in-person). *Middle East African Journal of Ophthalmology, 21*(2), 123–127. <https://doi.org/10.4103/0974-9233.129756>
- Smirnova, Z. V., Kamenez, N. V., Vaganova, O. I., Kutepova, L. I., & Vezetiu, E. V. (2019). The experience of using the webinar in the preparation of engineering specialists | Amazonia Investiga. *Amazonia Investiga, 8*(18). <https://www.amazoniainvestiga.info/index.php/amazonia/article/view/307>
- Verma, A., & Singh, A. (2010). *Webinar-Education through Digital Collaboration*. <https://doi.org/10.4304/jetwi.2.2.131-136>
- Wang, S.-K., & Hsu, H.-Y. (2008). Use of the Webinar Tool (Elluminate) to Support Training: The Effects of Webinar-Learning Implementation from Student-Trainers' Perspective. *Journal of Interactive Online Learning Wwww.Ncolr.Org/Jiol, 7*(3). www.ncolr.org/jiol

How to Cite this Article

Sarma, D. P. (2021). Learning at Home: Engagement of Academic Community during COVID-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 44-50). Badan Barman.

Online Teaching-Learning during Covid-19 Period

Ms. Jahnvi Iyer

Student, Department of Biochemistry
St. Francis College for Women, Hyderabad-500016, Telangana, India
Email: jahnnaviramesh12@gmail.com

Ms. Rushika Jain

Student, Department of Biochemistry
St. Francis College for Women, Hyderabad-500016, Telangana, India
Email: rushikarose@gmail.com

Ms. Pokala Sai Kovala Sanjana

Student, Department of Biochemistry
St. Francis College for Women, Hyderabad-500016, Telangana, India
Email: sanjanapokala@gmail.com

Ms. S. Malathi Varma

Assistant Professor, Department of Biochemistry
St. Francis College for Women, Hyderabad-500016, Telangana, India
Email: malathivarma.s@gmail.com

&

Dr. Dipti Soni Jaipuria

Assistant Professor, Department of Biochemistry
St. Francis College for Women, Hyderabad-500016, Telangana, India
Email: jaipuriardiptisoni@gmail.com

Abstract

This paper aims to identify, acknowledge, and realize the benefits & satisfaction level of online education and the need to accept this new paradigm of education. There are various important key factors and advantages of online education along with offline classroom teaching. Online teaching & learning is here to stay and will serve as a catalyst to reform our education system. The prerequisite of a course and its curriculum will define the extent of online teaching and learning. With the proliferation of information and knowledge students must become lifelong learners in today's world and online teaching & learning plays an important role in helping individuals access learner-centered and self-directed learning in the education system. This new paradigm has united the whole world beyond boundaries and the institutions across the globe are on the same platform.

This paper covered aspects like flexible deadlines, educate-educator bond, online platforms, audio-visual learning, cost-effectiveness, effect on physical and mental health, effect of environment and benefits of innovative learning to acknowledge that education is not limited to classrooms.

Keywords: Online Teaching-Learning, Teaching-Learning during Covid-19

1. Introduction: Education is the process of learning or acquisition of data, skills, values, and beliefs. Education is essential for every human being to produce a civilized society and forms the foundation of any society. The COVID-19 pandemic has affected educational systems worldwide causing functional changes in the working of schools, colleges, and universities. As of now, approximately 1 billion learners are affected worldwide (UNESCO, 2020). During these testing circumstances due to impromptu functioning, the process of education has shifted from classroom to online teaching & learning that has become a critical lifeline and a blessing for millions of students in these crucial times.

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipuria, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

Learning is no longer confined within four walls of a classroom. Education has come a long way and opened new vistas in the field of education. Online teaching & learning gives students an opportunity to reach educators as they may not be able to enroll in a traditional classroom course and supports students who need to work on their own schedule and at their own space. This was the need of the hour and these changes were due in the whole education system. The education system now is united as the world is on the same platform during this pandemic. The diversity and scale of online courses is increasing and now students need not limit themselves to just one stream and can always avail various courses from different streams.

Online teaching & learning is seen to have various benefits, students have flexibility in taking classes and working at their own pace and time, students learn to become responsible for their own education with information available at their fingertips, find the submission of assignments easy and convenient and can voice their opinions, share and debate issues (Online Business School, 2020). Online learning also helps in easy assessment and evaluation. In the present time, quality of education is better understood by continuous assessments which can be efficiently managed through online medium. Students now are also able to perform different hobbies related activities by staying home and can concentrate and take better care of their health and hygiene.

2. Methodology: A survey is conducted through Google forms. The questionnaire comprised 18 questions. The questions were related to the benefits and satisfactory levels of online teaching & learning among students.

An interaction is also made with individuals personally who are currently attending online classes to understand their views and opinions about online teaching & learning.

The data received were tabulated, analyzed statistically using diagrammatic presentation and further interpreted with biochemical perspective to understand the satisfactory physiology.

The Google form link of the survey conducted is available at: <https://forms.gle/TLmWiQAqCFFHFVml6>

3. Result: More than 300 responses from all over India under the age groups from 15 years to more than 18 years were received. The data collected has been interpreted in the following through statistical bar diagram and pie charts.

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

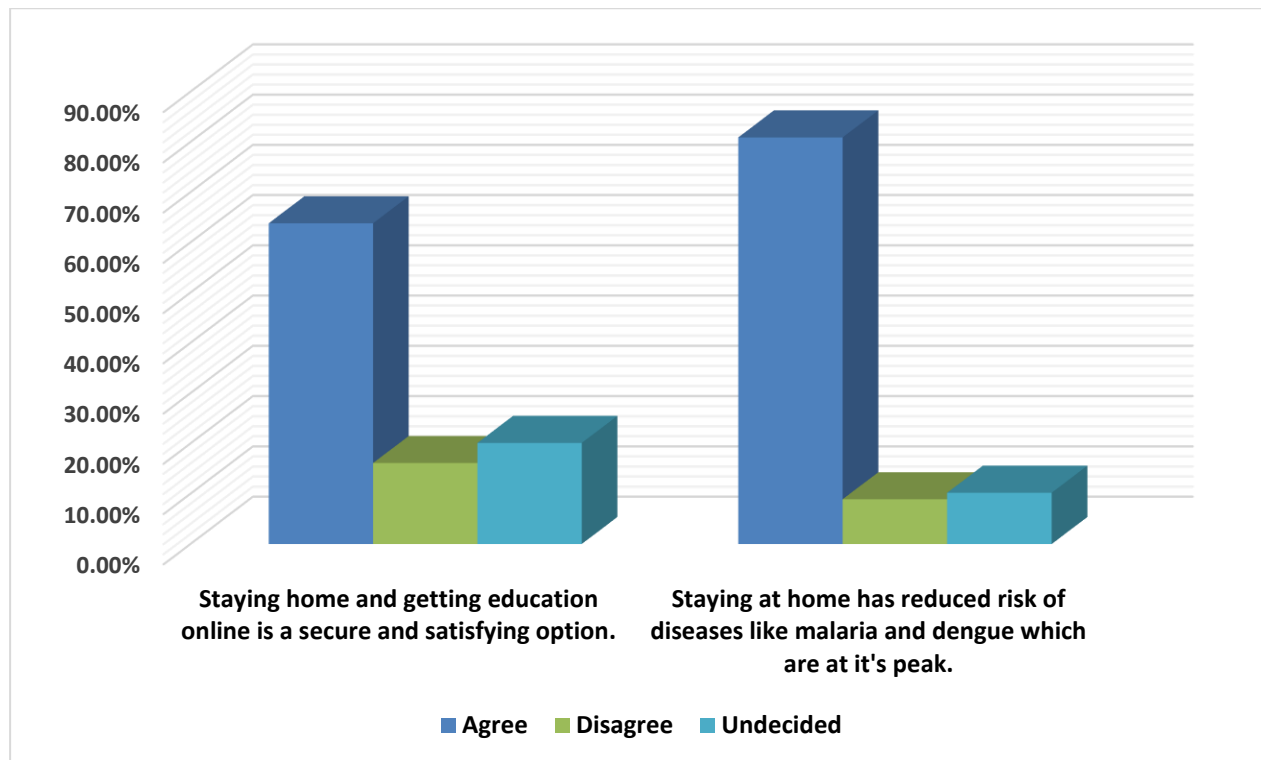


Figure 1: Online Education is Secured and Satisfying

63.8% students agreed staying home and getting education is a secured option & 80.9% students have agreed that staying at home has reduced the risk of diseases.

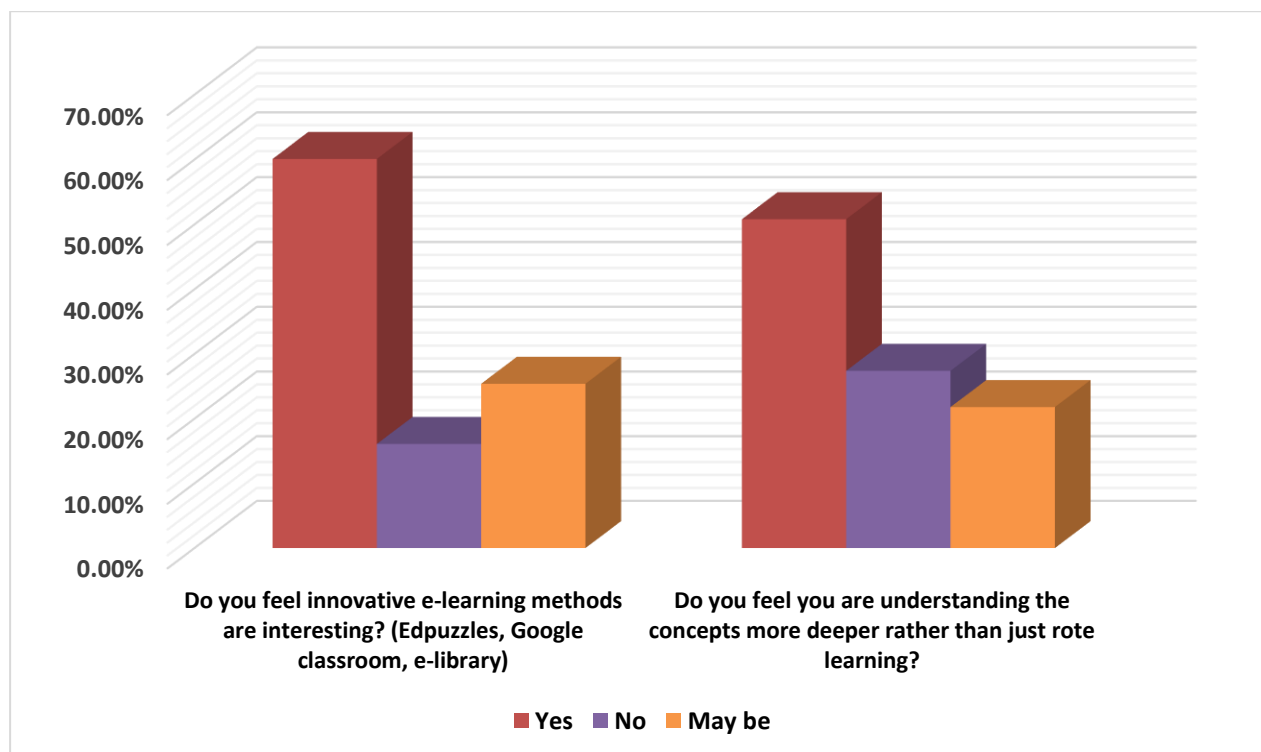


Figure 2: E-learning Methods are Interesting and Help in Understanding the Concept at Deeper Level

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipuria, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

59.9% students feel sources like Edpuzzle, Google Classrooms are satisfactory & 50.8% students agreed that instead of rote learning they are understanding concepts more deeper and better.

Over the past three months 63.8% students have attended few seminars and workshops while 21.1% have attended many online seminars and workshops and 15.1% have attended several seminars and workshops.

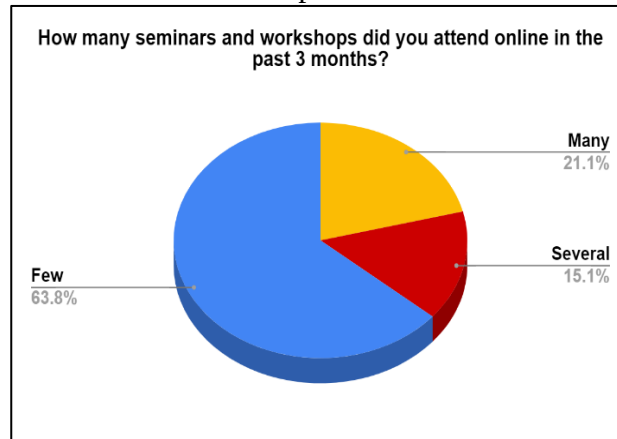


Figure 3: Seminars and Workshops Attended in the Past Three Months

47.2% students agreed that the bond between the teacher and students has become interactive and healthier in the online teaching-learning process.

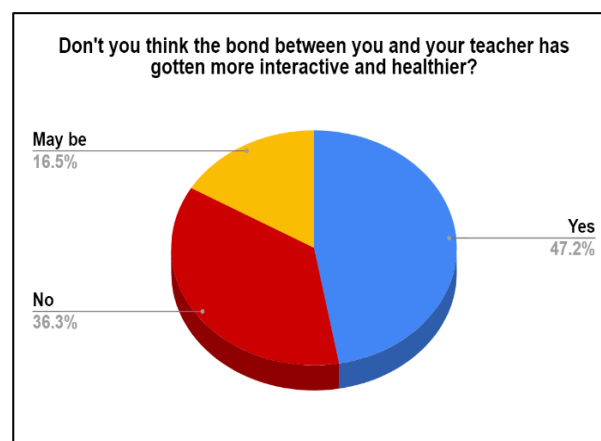


Figure 4: Relation Between Teacher and Students in Online Teaching-Learning

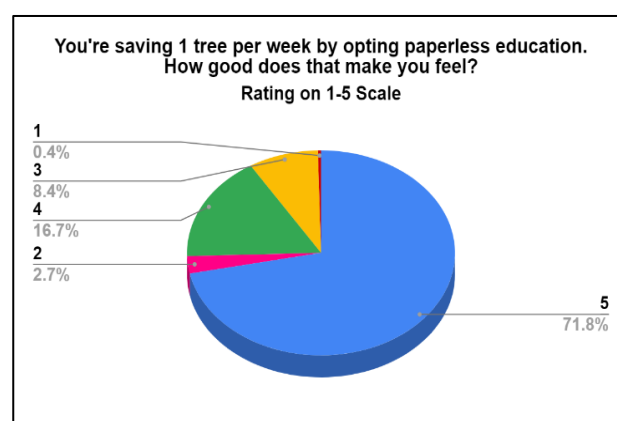


Figure 5: Feeling of the People towards Paperless Education

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

71.8% students feel good by opting for the decision of paperless education.

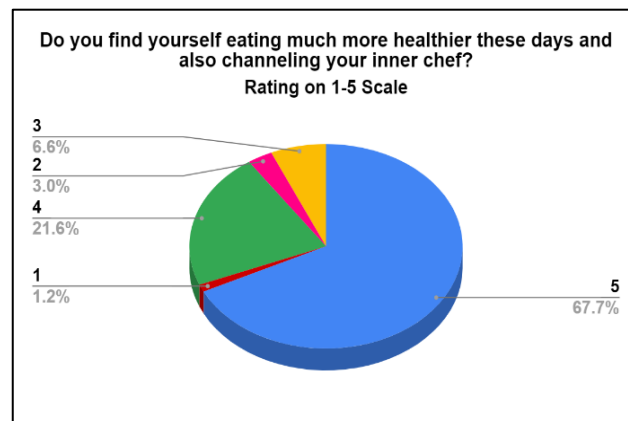


Figure 6: Change of Eating Habit during Covid-19 Period

67.7% students have a change in their eating patterns and even noticed that they are eating healthier food over junk.

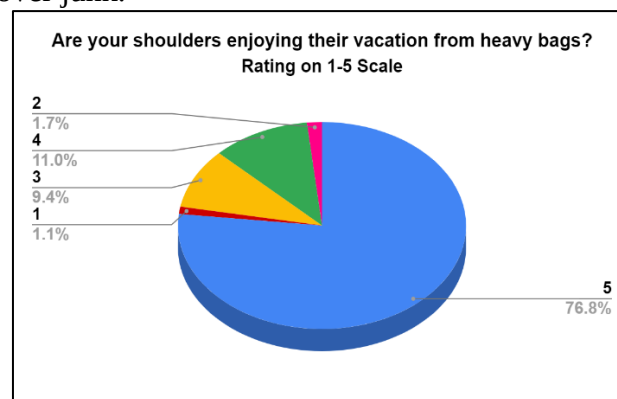


Figure 7: Impact of Covid-19 in the Shoulders

76.8% students have given a 5 on rating scale as they feel that their shoulders are free from the burden of heavy bags.

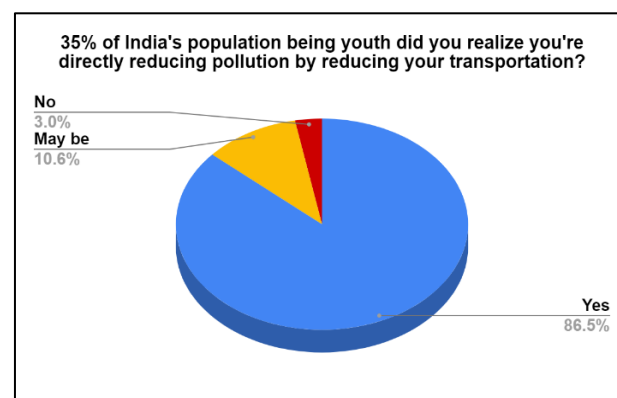


Figure 8: Impact of Covid-19 on Environment

86.5% of students realized that reducing transportation has reduced pollution.

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

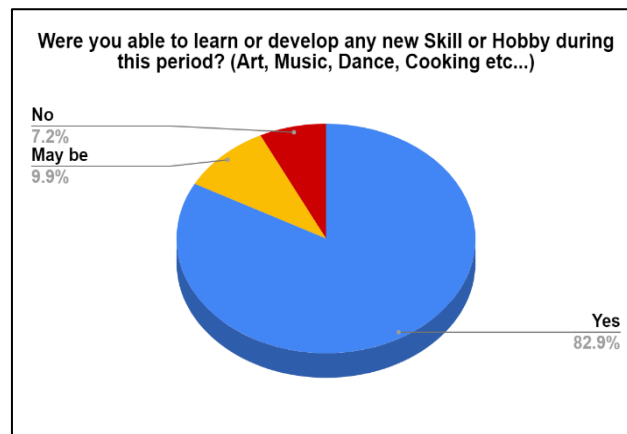


Figure 9: Impact of Covid-19 in Developing New Skill or Hobby
82.9% students have developed a new skill or a hobby in this period.

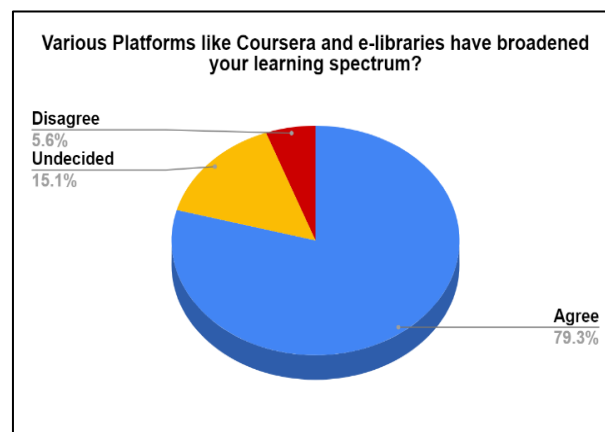


Figure 10: Impact of Coursera and E-Libraries

79.3% students agreed that platforms like Coursera and e-libraries have broadened their learning spectrum.

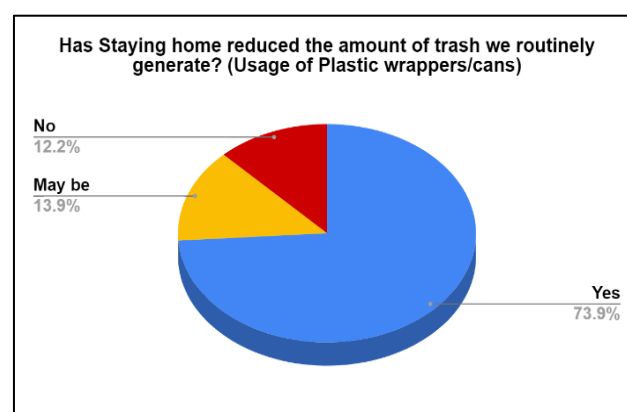


Figure 11: Impact of Covid-19 on Trash

73.9% students agreed that they have reduced the routine trash that is generated.

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

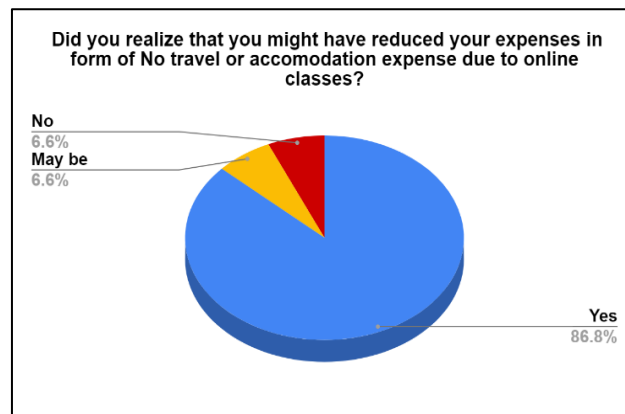


Figure 12: Impact of Covid-19 on Expenditure

86.8% students have realized that they have reduced expenses due to online classes.

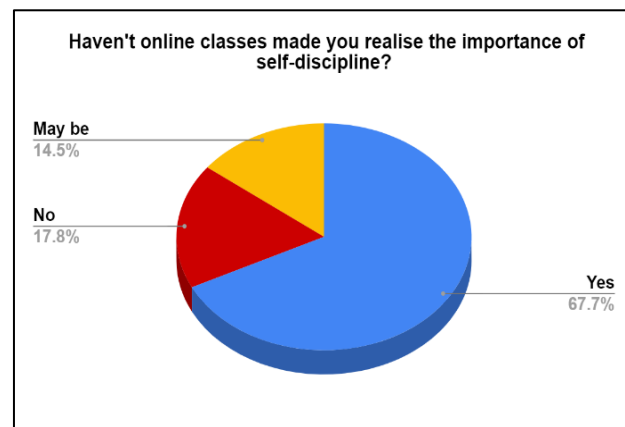


Figure 13: Impact of Covid-19 in Maintaining Self-Discipline

67.7% of students realized the importance of self-discipline during online classes.

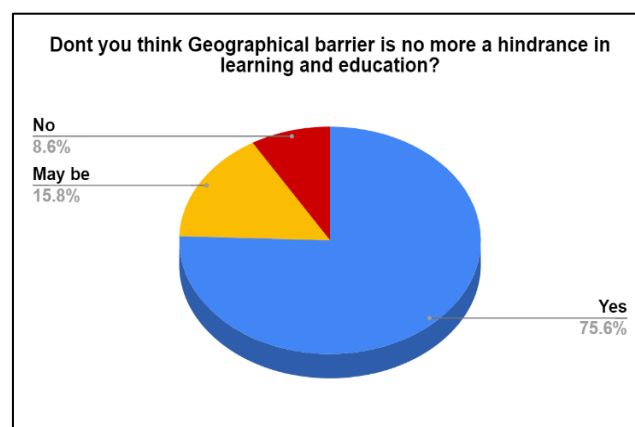


Figure 14: Breaking the Geographical Barrier in Teaching-Learning

75.6% students agreed to the point that geographical barriers are no more a hindrance in learning and education.

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

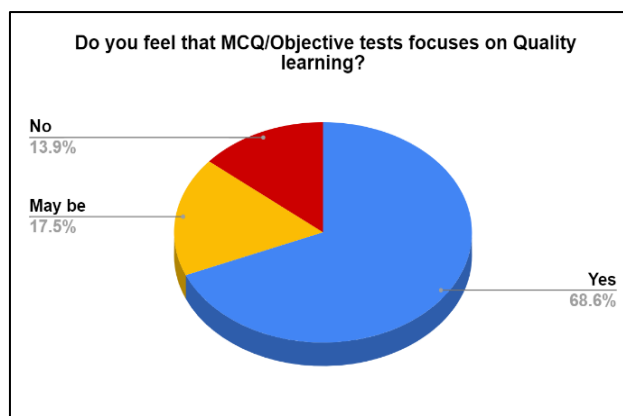


Figure 15: MCQ on Quality Learning

68.6% students feel that objective tests focus on quality learning.

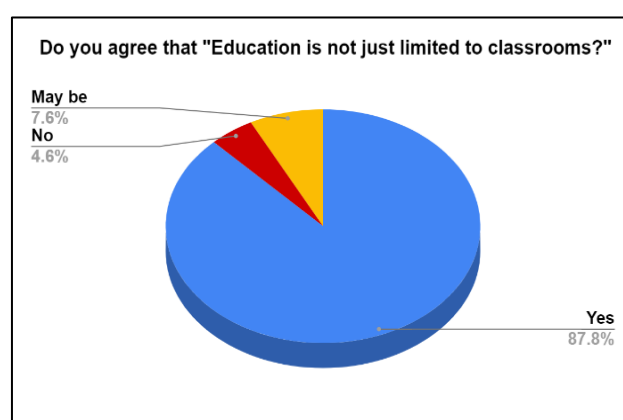


Figure 16: Education is not Limited to Classroom

87.8% of students agreed to the fact that “Education is not limited to just classrooms.”

4. Online Teaching-Learning during Covid-19: With the computer and internet coming into existence in the late 20th century, the new course of online learning often termed as e-learning had begun. Various methodologies and applications like MS Word, MS Excel, MS PowerPoint, etc. created a boon for online learning niche. The concept of e-learning had begun. With the due course of time, e-learning courses had become popular among businesses and trainers (Ferrer, 2019). Although it was not widely accepted all over the world. It has taken a pandemic for the population to accept and get acquainted with e-learning. E-learning is now less marginalized and gradual transition has taken place from IT to mainstream academics. As advancement continues to occur in technology, an increasing number of students are having access to the internet thereby making online education the future of learning.

E-Learning methods are strong. There are plenty of innovative online tools available and educators can use a combination of audio, video, and text to reach out to their students to maintain human touch especially in times of crisis like the pandemic of Covid-19. Here comes the question, how is innovative learning beneficial over the use of simple chalk and board? Chemicals play an important role in learning. Strategies of Brain-based teaching & learning is efficient in understanding and learning of subjects. Brain-based teaching & learning includes use of color, audio, images, videos, interactive quizzes etc. The basis of

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

learning and memory creation lies in changes in electrically active neurons and connections between them called synapses. Chemical neurotransmitters are used to send signals across synapses and the neuron integrates all signals it receives and produces sensible responses. Learning appears to occur primarily because of changes in the strength and number of connections between existing neurons, a process termed Synaptic Plasticity (Georgic, 2015; Owens & Tanner, 2017) (Figure 2 & 15).

Brain-based teaching & learning builds stronger connections and circuits which produce neurotransmitters involved in learning and memory more efficiently making a student to learn, remember and store knowledge. Situations of novelty, visual representation and reward are associated with release of neurotransmitters like

- a) Acetylcholine releases and supports different types of memory from working to long-term memory.
- b) Dopamine a potent neurotransmitter makes one curious about ideas and fuels the brain to search for information.
- c) Serotonin regulates brain function and develops cognitive skills to think, read, learn, remember, reason, and pay attention (Adaes, 2018; Mandal, 2019) (Figure 10).

Online teaching & learning is now increasingly considered as a viable alternative in these difficult times of pandemic to the traditional path of attending brick and mortar colleges. Flexibility in online interaction is often cited as being a greater advantage of online teaching and learning. The cost effectiveness has emerged as an important factor. Attending a campus life is more expensive. Traditional schools and colleges come with a certain kind of experience filled with dorms, dining halls, big-brick academic buildings, swimming pools, playgrounds etc. all of which comes at a cost. Offering all these amenities requires a significant amount of overhead and hence turn out to be expensive. On comparing online classes might cause quite less and hence it is a crucial aspect in today's economy where job losses and pay cuts are rampant. Online teaching & learning becomes relatively cheaper by avoiding costs of transportation, accommodation and over institution costs. With online teaching & learning students can be assured that economic blows dealt during pandemic will not affect their education. Governments and institutions are constantly putting efforts to help and assist students and ease the process of online education by creating conducive infrastructures (Figure 12).

Eventually the monsoon season is here! Monsoon season brings countless diseases every year due to deleterious viruses. The airless and windy surroundings spread many infectious diseases. Common monsoon diseases are: Cold and Flu, Hepatitis A, Mosquito Borne Diseases (Dengue and Malaria). Dengue and malaria are two vulnerable diseases. Every year there are numerous cases of people who are suffering from these air-borne diseases. Comparatively this year the numbers of cases have reduced, and the main reason for this is because much of the population has avoided travelling for education and hereby preferring online education. Staying at home is not only helping us get education but is also protecting us from other diseases as monsoon is at its peak. By staying at home in this hard time we are saving our life! Hence justifying the statement "prevention is better than cure" (Kokilaben Dhirubhai Ambani Hospital, 2019) (Figure 1).

Successful management of data during traditional education uses enormous amounts of paper for maintenance and the procedure is not immediate, moreover, the advantage of online education is- everything is digital, and the work gets completed quickly in a systematic way. It also reduces the burden and efforts that the teachers must put to check every student's assignment. Hence artificial intelligence on online learning has made work easier for both the teachers and the students. This mode is giving weightage to assessment and evaluations than examinations. It can replace rote learning to give way to concepts and understanding in the learning process. The relation between students and teachers also plays

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

a major role in flight of a student's academic progress, social development and during online-learning the classes are found to be more interactive and has allowed students having introverted nature to communicate with teachers (Figure 4).

a) Self-Discipline: Online learning is growing increasingly. As this method of learning is more accessible and affordable than traditional courses, it also requires more discipline. To succeed in an online program, one needs to reduce the possibility of distractions and understand how to manage time. Just being online can cause distractions to students and they may have an urge to use social media, gaming sites and the list goes on. However, if the student cannot have a control on their urges then they should often switch off their devices which take away their attention from their work. One needs to select a calm place to complete all the work and plan the events of the day beforehand for effective time management. By learning the importance of work to be done, one becomes self-discipline and learns various methods to avoid distractions. Online-learning gives us the opportunity to learn more than what we could learn via traditional classes (Brian Tracy International, n.d.) (Figure 13).

b) Healthy Food: Over the past few years' foods like vada pav, pizza, french-fries, and many other dishes have pierced in every corner of our country. Almost anywhere we go, we can find these junk food varieties. The consequences that these junk foods have on our health are horrific, irrespective of whether you have it once, twice in a week or even daily. Problems which arise are obesity, high blood pressure, depression and many more. One can deal with these severe problems only by taking proper care of themselves, by eating nutritious food cooked at home and avoiding fast food (Rupavate, 2014). Staying home has given students the opportunity to concentrate on their health. They are now able to eat healthy home cooked meals and avoid junk food (Figure 6 & 11).

Road transportation is the most convenient mode of transportation for students to reach their respective educational institutes and contributes a major share to pollution. Previously, education and road transportation went hand in hand but since online classes have begun during this time of the pandemic, it is no longer a barrier between students and their education. With increasing road transportation phenomena like "global warming" is at its zenith. Carbon monoxide when inhaled combines with hemoglobin due to high affinity and has toxic effects on our health (DetectCarbonMonoxide.com, n.d.). Various particulate matter and gaseous pollutants can have a detrimental impact on our skin, lungs, kidney etc. Prolonged exposure to traffic or noise pollution can have an impact on us unknowingly like stress and increased blood pressure (Australian Academy of Science, 2020). So, online classes are not only beneficial to us but for the environment too. Reducing transportation is not only saving us from the pollution and its harmful effects but it will also slowly reduce the impact of pollution on nature (Rose, Wang, Xu, McTiernan, Shiva, Tejero, & Gladwin, 2017 & *Does air pollution lead to atherosclerosis*, 2007) (Figure 8).

"Online learning will help pave the way for paperless education". E-libraries, publishing houses and online learning platforms help us to get education without cutting down trees. This will eventually reduce our paper consumption and help in reforestation. Every year innumerable trees are cut down to print textbooks for schools and colleges and this practice can be slowed down by opting online learning. It was necessary to throw light on these aspects because as time goes by both education and pollution will have a steady exponential growth. Paperless education is a boon for our forests and reforestation is a blessing. These might seem as minor changes, but the impact will be the change that we need. Small steps taken today will take us a great distance in the future (Figure 5)

Last but not the least, online platforms of learning and teaching have united the whole world and put countries together for better learning and teaching. So many libraries and publication houses have gone digital and are available free of cost in these difficult times of

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

Pandemic. Teachers and students are exploring virtual-labs and virtual learning means. Prestigious universities have opened their doors for students beyond the boundaries across the globe. We could attend several webinars, workshops, and conferences online and enriched our academic level (Figure 3, 10 & 14).

5. Conclusion: Education is a vital asset which can be acquired from the four corners of the world, but it depends on the willingness of the student. During these terrifying yet unavoidable times of the pandemic, there is a silver lining which was brought to light. The educational platform across the world has become one and united by connecting students through various online programs like courses, seminars, workshops, e-libraries etc. The survey conducted had around 20 questions which helped us get an insight into a student's mind-set on how online learning and teaching was perceived by them.

Rote learning has taken the back seat so that online learning and teaching can be the need of the hour. Both online and traditional educational methods have merits of their own but taking the current circumstances into consideration, online learning and teaching is a path we can opt to ensure that we can focus on our education as well as health and hygiene. It is also noteworthy that these online platforms offering approachable and imaginative learning must not terminate once situation improves. Belonging to the era of technology and development, youth understands and relates to information technology much better and this understanding can be used to broaden our spectrum of education, thus, serving as a catalyst to reform the education system. Both traditional and online learning must go hand in hand to bring about a satisfactory and innovative learning experience. Many educational institutes are enhancing facilities allowing students to participate in some sort of virtual learning along with traditional methods. With the continual development of technology, online teaching and learning will go on to improve and flourish.

Acknowledgement: We would like to extend our gratitude to the Department of Biochemistry and the Management of St. Francis College for Women, Begumpet, Hyderabad, for their continuous support throughout our study. Our gratitude to all those who have provided us the information through our structured questionnaire.

References

- Adaes, S. (2018). What is acetylcholine? An exploration of the cholinergic system — functions, neurochemistry and support. <https://neurohacker.com/what-is-acetylcholine>
- Australian Academy of Science (2020). Health effects of environmental noise pollution. <https://rb.gy/8abbx5>
- Brian Tracy International (n.d.). How to avoid distractions & get things done. <https://rb.gy/jigf5u>
- DetectCarbonMonoxide.com (n.d.). CO Knowledge Center. <https://www.detectcarbonmonoxide.com/co-health-risks/>
- Does air pollution lead to atherosclerosis? (2007). *Future Cardiology*.
- Ferrer, D. (2019). History of Online Education. <https://thebestschools.org/magazine/online-education-history/>
- Georgic, J. (2015). Neurotransmitters and Learning. <https://www.hastac.org/blogs/joedgeorgic/2015/04/22/neurotransmitters-and-learning>
- Kokilaben Dhirubhai Ambani Hospital (2019). Be cautious of these monsoon diseases. <https://www.kokilabenhospital.com/blog/be-cautious-of-these-monsoon-diseases/>
- Mandal, A. (2019). Dopamine Functions. <https://www.news-medical.net/health/Dopamine-Functions.aspx>

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipurkar, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

- Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). *e-Learning, online learning, and distance learning environments: Are they the same? The Internet and Higher Education*.
<https://www.sciencedirect.com/science/article/abs/pii/S1096751610000886?via%3Dihub>
- Online Business School (2020). <https://www.onlinebusinessschool.com/why-online-learning-is-the-future-of-modern>
- Owens, M. T., & Tanner, K. D. (2017). *Teaching as Brain Changing: Exploring Connections between Neuroscience and Innovative Teaching*. *CBE—Life Sciences Education*, 16(2) fe2. <https://www.researchgate.net/publication/316549809>
- Rose, J. J., Wang, L., Xu, Q., McTiernan, C. F., Shiva, S., Tejero, J., & Gladwin, M. T. (2017). *Carbon Monoxide Poisoning: Pathogenesis, Management, and Future Directions of Therapy*. *American Journal of Respiratory and Critical Care Medicine*.
<https://scihub.wikicn.top/https://dx.doi.org/10.1164%2Frccm.201606-1275CI>
- Rupavate, S. (2014). 10 reasons junk food is bad for your health. <https://www.msn.com/en-in/news/other/10-reasons-junk-food-is-bad-for-your-health/ar-AAbPYz>
- Typeform (2020). How to conduct a survey in 7 steps.
<https://www.typeform.com/surveys/how-to-conduct-survey/>
- UNESCO (2020). Education: From disruption to recovery.
<https://en.unesco.org/covid19/educationresponse>

How to Cite this Article

Iyer, J., Jain, R., Sanjana, P.S.K., Varma, S. M., & Jaipuria, D. S. (2021). Online Teaching-Learning during Covid-19 Period. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 51-62). Badan Barman.

Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam

Mr. Chinmoyee Borpujari

Research Scholar, Gauhati University, Guwahati-781014, Assam

Email: chinmoyeeb@gmail.com

&

Ms. Maushumi Mahanta

Assistant Professor, Department of Mathematics, Saraighat College, Assam

Email: maths.mmahanta@gmail.com

Abstract

In the current scenario, the global pandemic has led to the adoption of new education strategies. In urban areas teachers and students often make use of distance learning, while in rural areas it is difficult to achieve. In rural areas, the students lack facilities and opportunity to participate in E-learning mode, but E-learning has now become an integral part of learning during the 21st century and especially during the Covid-19 period. In addition to sophisticated information communication technology, the computer-based digital innovations like web conferencing, videoconferencing, etc. have played a decisive role in academic and professional approaches to knowledge-based interaction between teachers and students. It has also created the need to tackle the catastrophic events, which are foreseen as the "new normal", unexpected and once in a century. But the teachers and students of rural areas have faced lots of inconvenience to switch over from traditional teaching-learning mode to currently demanding e-learning mode. Obviously, there have been significant restrictions on students living in rural areas. The present study is an attempt to study the problems relating to the teaching-learning process faced by students of the rural areas of Kamrup district, Assam during the covid-19 pandemic scenario and to explore necessary steps toward mitigation of this educational gap.

Keywords: Challenges of Online Learning, Learning from Rural Areas, Learning during Pandemic.

1. Introduction: The coronavirus crisis has compelled all key sectors to switch their activities online—the education sector is no exception. With lockdowns being imposed across the world, schools and higher education institutions have been shut down to protect students and prevent contagion. Online learning platform in the context of e-learning aims at combating for citizens of educational system questions of equity, equality through access to educational opportunities. Students worldwide have faced these problems relating to online mode of education where lack of proper technological infrastructures and other facilities have restricted the learners from efficiently gaining access to the teachers and online classes.

2. Objectives: The objectives of the study is to

- a) Study the problems relating to the teaching learning process faced by students of the rural areas of Kamrup district, Assam during the pandemic scenario.
- b) Explore necessary steps toward mitigation of this educational gap.

3. Methodology: In this study both primary and secondary data were taken into consideration. The primary data were collected through questionnaires. During actual visits to three remote villages of Kamrup district, the questionnaires were randomly distributed to the students and parents and the responses were collected. The results of these questionnaires are tabulated and presented in the present study. A total of 70 samples were taken this way.

How to Cite this Article

Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

4. Kamrup District and its Education Scenario: Kamrup district is positioned at North Latitude 25.46 to 26.49 and at East Longitude 90.48 to 91.50 respectively. The district is surrounded by the districts of Udalguri and Baska to the North, Meghalaya to the South, the districts of Darrang and Kamrup to the East, and the district of Goalpara in the West and the district of Nalbari in the North.

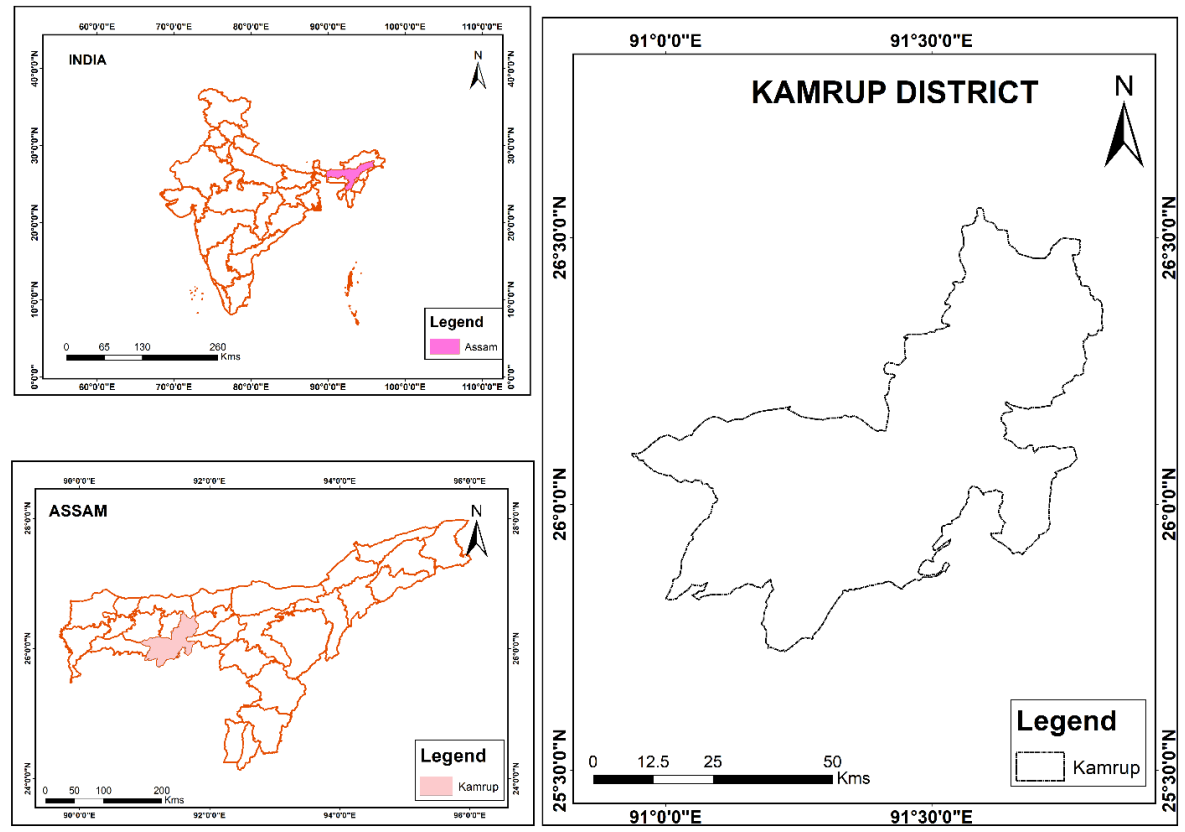


Figure 1: Location of the Kamrup District of Assam

At present, we are living in the middle of a huge education crisis, which is one of our most serious threats to global education in our lifetime. Government has shut down the schools and colleges briefly, in order to prevent the spread of the new coronavirus (Hua, 2020). The pandemic scenario has drastically affected the education system worldwide. The state of Assam is no exception to this crisis as well. State governments throughout the world have proposed a change to online education as a stopover to prevent major academic calendar disruptions. As a result, the key to transforming education has been e-learning. Although virtual learning offers many benefits, the huge digital divide in India means that those who have access to technology will only benefit, those who can adapt to it and, above all, those who can afford it. Computers, laptops, tablets and smartphones support digital classrooms, but in rural areas neither the teacher nor the individual students equip with these devices.

According to the Key Indicators of Household Social Consumption on Education in India report, based on the 2017-18 National Sample Survey, only 23.8% of Indian households have internet access (Apte, J., 2020). This statistic is even lower in rural areas, where just 14.9% of households have access to the internet—as opposed to 42% of urban households (Apte, 2020). Only 4% of households in rural India have access to computer based technological facilities. Some children may have a difficult time either

How to Cite this Article

Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

shunning their curriculum or commuting to a relative or friend with an online platform for classes, which can risk everyone's wellbeing, with such a restricted access to knowledge during the global epidemic. The challenge for the students is electricity, mobile network and lack of digital literacy, and teachers too have challenges. Many of them are digitally inexperienced and a large number of teachers in rural areas in particular have not used an online platform to teach.

Critics also believed that the government needs to work towards solving the disparities in access by improving internet and network services and supporting affordable mobile data for economically backward students to make learning more accessible across different platforms. Whereas, the basic infrastructure causes an immeasurable hurdle to distance education for children and young adults, the interests of the educators must also be taken into account. Professional faculty development programs originally do not necessarily include skills necessary to undertake teaching online, which may require lesson plans to be developed or digital copy of books and study materials. When teachers are inexperienced or relaxed with virtual platforms, their ability to transmit learning materials to their students may eventually lead to less educational quality. Evolution of digital learning can also be an added benefit for those with English as their teaching medium, given that English learning instruments and material are already commonly available. In contrast, opportunities are severely constrained for the local languages comprising the Indian curriculum. Thus Assamese medium schools and students from government schools are the ones suffering from this adverse educational leap taken forcibly due to this global pandemic scenario.

Kamrup district has a rural as well as urban population. The urban areas are well equipped with internet and Ethernet infrastructure, thus enabling the students to uninterrupted educational facilities during lockdown scenario, while the rural areas of Kamrup district are not free from it. Lack of proper facilities like broadband providers, lower economic groups, inadequate technological infrastructure (Smartphone, laptop, desktop, etc), slow 4G networks, lack of computer literacy among parents, etc. are prevalent.

5. Result of the Survey in the Rural Areas of Kamrup District: A survey is conducted among the students group of the rural areas of Kamrup district of Assam. The results are shown below in diagrammatic form. The data clearly shows that the e-learner from rural areas faced many problems. The main findings of the study are summarized as-

- a) 70 % of the students have access to the internet, while the rest 30% have to travel to a neighbor's house or a relative's place to conduct regular classes.
- b) 16% of the students have access to laptops and desktops while 84% did not own any laptops/desktops.
- c) In the absence of laptops and desktops, Smartphones were the alternative for attending the online classes and tuitions. But few economically backward families were unable to attend the online classes due to lack of Smartphones as well. 23% of the total students from the surveyed sample were unable to buy a Smartphone for conducting regular classes.
- d) 82% of the total students from the surveyed sample were not well versed with operating a computer. Lack of computer literacy was another problem faced by people.
- e) 44% of the learners do not have proficiency in the English language. Only 56% students from the surveyed sample were fluent in English and were familiar with software and computer technologies.

How to Cite this Article

Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

Thus, it is observed that the aforesaid problems are of serious concern for the people in rural area. Students from rural areas are risking their health to travel to a nearby accessible household for computers and internet. These problems are causing disruptions to the students as education is hindered by their troubles.

Sl. No.	Problems faced by students	Number of Students			
		Yes	Percentage	No	Percentage
1	Internet Availability	49	70	21	30
2	Laptop	11	16	59	84
3	Smart phone	54	77	16	23
4	Computer Literacy	13	18	57	82
5	English Proficiency	39	56	31	44

Table 1: Result of Survey Done for Students of Rural Area of Kamrup District

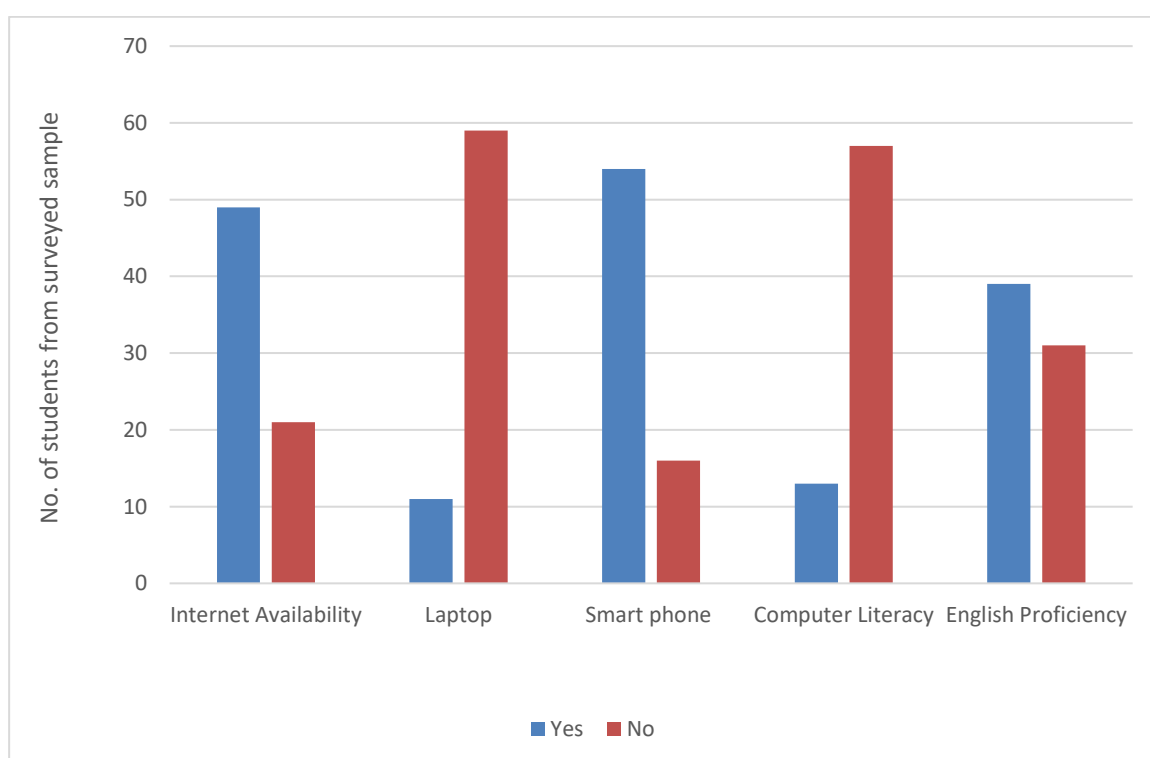


Figure 1: Problems Faced by Students of Rural Area of Kamrup District

6. Measures to Tackle the Digital Divide: To resolve the prior issues faced by students regarding e-learning mode implemented due to the present Covid-Lockdown scenario, few small but necessary measures can be focused on. All these are expected to bring efficient delivery of knowledge to the students.

- E-learning education campaign should continue.
- The online mode of education should efficiently be used for training programs for students and trainers alike.
- Principal, dean and directors and other staff of the educational institutes should try to acquire and manage the online infrastructure.
- Online classes should be properly organized so that students are allowed to take part in simulated lessons rather than stay at home and only take part in exams.

How to Cite this Article

Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

- e) Government should ensure free internet facilities in the form of data provided to the students below a particular economic background to ensure educational security to the students.
- f) Teachers should guide the students suitably to ensure the use of technology and availability of online contents.
- g) E-learning courses must be designed to make it easy to use and better suited for all learners.
- h) Officials of government should be concerned about e-learner's challenges and initiate necessary steps to resolve them.
- i) E-learners in rural communities can benefit from enhanced and unobstructed power supply.
- j) Parents of students should ensure the basic knowledge to operate the learning applications and help guide their children during the e-learning.

Although online learning instruments are valued to be personalized, affordable and equitable, internet access is not. In many rural areas of Kamrup, internet connectivity at households is very truncated. Various public-private agencies and non-profit organizations collaborate towards the issues of remote education transformation. Free mobile apps for providing study materials to the students are launched and publicized. Materials are provided for studies with video learning and downloadable e-contents. While these steps yield several positive outcomes, central and state governments will concurrently endeavor to improve their digital infrastructure in virtual learning, adapt their school curricula and teacher preparation to suit into the framework of online courses. Sadly, this issue has not been resolved with significant expenditure.

The distinction between one-to-one learning and online learning produces significant weaknesses in online methods, such as the lack of human interaction, the lack of interactive learning opportunities, teachers' oversight and the lack of practical training opportunities for complex topics such as science and mathematics (Chari, 2020). Most institutions do not need advanced technology. Schools in rural areas can facilitate the use of a simple mobile teaching device (Nanjappa, 2020).

The government should, however, promote that the bandwidth is increased in rural areas. After the poor students return to school, efficient interaction is expected. Teachers must connect to the parents of the students in the lower classes to ensure continuity in education. Children should be encouraged into a peer learning system.

7. Conclusion

The pandemic of COVID-19 revealed serious differences between rich and poor families, between rural and urban households and between men and women. These disparities illustrate the gaps even on virtual platforms of India's access to education. The current system is inadequate to act as a suitable alternative to individual learning, while a push to remote learning is understandable in these difficult times. Only poor, vulnerable and disadvantaged citizens can get further into the margins of society and even worse, leaving them behind in the present path of refusing to build and strengthen the education infrastructure of the country.

References

- Apte, J. (2020). The Challenge of (Online) Education in India during the COVID-19 Pandemic, *Statecraft News*, Global Affairs Daily.
- Chari, R. (2020). Challenges of quality in online learning, *Edutrends India*, the Times of India. <https://timesofindia.indiatimes.com/blogs/edutrends-india/challenges-of-quality-in-online-learning/>

How to Cite this Article

Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

- Hua, S. O. (2020). Is E-Learning Possible in the Rural Area of Meghalaya during Lockdown?. <https://www.syllad.com/is-e-learning-possible-in-the-rural-area-of-meghalaya-during-lockdown/>
- Nanjappa, V. (2020). The lockdown challenge and how the poor need to cope with education, *One India*. <https://www.oneindia.com/india/the-lockdown-challenge-and-how-the-poor-need-to-cope-with-education-3085007.html>

How to Cite this Article

- Borpujari, C., & Mahanta, M. (2021). Challenges of Online Education for Students in Rural Areas of Kamrup District, Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 63-68). Badan Barman.

Problems and Prospects of Online Education During Covid-19 Pandemic

Ms. Mridula Hazarika

Assistant Professor, Department of Education, Kamargaon College, Golaghat, Assam

E-Mail id: mridulahazarika04@gmail.com

Abstract

Formal Education is completely disturbed in the ongoing lockdown due to the pandemic situation arising from Covid-19. Online education has become the only way of accepting methods for continuing the teaching learning process. The teachers are bound to adopt different tools like video conferencing, Google classroom, YouTube to engage in the teaching learning process and make students positive and vibrant. During the time of online education, various problems regarding the internet connectivity, online learning materials, students' cooperation, etc. have to be faced. So, there is a high need to analyse the problems of the online education system.

Keywords: Online Education, Online Teaching-Learning, Education during Covid-19

1. Introduction: Online education is an adjustable pedagogical transmission system. It surrounds different types of learning which take place with the help of the internet. Online education provides teachers a great probability to connect students who may be unable to admit in a conventional classroom. In this global pandemic situation, it becomes the only approach of communication between teachers and students. Therefore, it is on high priority to study about the existing online education system along with its unavoidable problems. This study is significant from this perspective as it tries to make an analysis on the problems of online education and to suggest some measures for minimizing these problems.

2. Objectives: The main objectives of the study are as follows:

- a) To analyze the problems of online education in the Covid-19 pandemic situation;
- b) To suggest measures to overcome the problems of online education.

3. Research Methodology: The data used in this study are secondary data which are descriptive in nature. The required data are collected from the secondary sources like various journals, websites as well as from the personal experiences gained during the online classes.

4. Analysis: An objective-wise analysis is made under the following sections:

a) The Problems of Online Education in the Covid-19 Pandemic Situation: During this global pandemic situation in the name of Covid-19, the general education system is hampered. Everyone is bound to adjust with the online teaching learning process as it is the only means of education. The teachers as well as the students are in urgent need to adapt various online communication tools to get connected with each other. In this process, various issues and challenges are faced. These can be analyzed as follows:

i) Lack of Proper Internet Connectivity: It is a big problem faced during the online education process, specially in most of the rural areas, internet facility is so poor that it creates serious problems for running the online teaching learning process.

ii) Lack of Smart Phones/Computers Among the Students: Students from poor economic backgrounds are suffering from this problem. Due to their poor economic condition, they are unable to buy a smartphone or a computer which is an urgent need for engaging in the online classes.

How to Cite this Article

Hazarika, M. (2021). Problems and Prospects of Online Education During Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 69-71). Badan Barman.

iii) Less Possibility of Practical Classes: Online education is not suitable for imparting the practical works like field study, laboratory practical, etc. That is why students are unable to acquire necessary practical skills required for completing the practical works.

iv) Social Isolation: In online education, students engage in their classes from different places like from their own home rather than the conventional classroom environment. It makes them socially isolated from each other.

v) Lack of Sufficient Feedback: In a conventional classroom, students can get immediate feedback from the teachers when they face any doubt regarding the subject matter taught. But in the process of online education, students' problems remain unsolved.

vi) Problems in Assessment: Assessment of the students' performance is a big issue in the online education system. Students have to complete the activities provided for assessment sitting at their home in which chances of cheating becomes more.

vii) Lack of Sufficient Knowledge on Use of ICT Based Tools: It is a common problem in online education. Lack of sufficient knowledge on use of ICT based tools hampers in smooth continuation of the online classes..

viii) Ignorance of the Students: Another problem regarding online education is that in some cases students ignore the online classes. It may be due to network problems or any other personal problems.

ix) Lack of Sufficient E-resources: Lack of sufficient E-resource is one of the major problems in online education. Again, very less amount of e-resources is found in regional languages. It makes lots of difficulties for the students studying different regional subjects or subjects in their regional languages.

b. Suggestive Measures to Overcoming the Problems of Online Education: As online education is the only means of education during this pandemic situation, so in spite of the problems we have to go with it for the continuation of the teaching learning process as well as for the benefit of the students. Here some suggestive measures are provided which may be helpful for improving the online education system:

i) Improvement of Internet Connectivity: For the improvement of internet connectivity, the government should take necessary steps. If possible, free internet services should be provided for the economically poor students. Sufficient number of mobile network towers should be established in every location.

ii) Provision of Free Tools: Due to the lack of smartphones and other essential tools for attending the online classes, students are unable to attend their online classes. Free smartphones can be provided to the economically poor and needy students.

iii) Accessibility of the Study Materials: Study materials should be easily accessible to both privilege and underprivileged students. All the study materials should be made available at any particular website in various regional languages according to the need and demand of the students.

iv) Motivation of the Students: E-Quiz, online competition on music, dance, essay writing etc. can be organized for motivating and increasing interest of the students towards online learning. This type of creative activity can help students reduce anxiety and tension in this pandemic situation.

v) Organization of Training Programmes for Teachers: Teachers should be trained to use various means of E-Learning. In this regard different workshops or training programmes can be organized for improving the knowledge required for using online learning resources.

vi) Teacher-guardian Online Meet: Teacher guardian online meet should be organized for better understanding of the mental condition of the students during the pandemic situation and to provide suitable suggestions regarding the role of parents in maintaining their mental wellbeing.

How to Cite this Article

Hazarika, M. (2021). Problems and Prospects of Online Education During Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 69-71). Badan Barman.

vii) Cooperation Between Teachers and the Students: For the effectiveness of the online teaching learning process, good cooperation should be maintained between the students and the teachers. Teachers should be free to discuss different topics with the students as well as to enhance their mental strength during this pandemic situation.

viii) Maintenance of Regular Routine: Teachers should try to communicate with the students on a regular basis through online classes and should motivate the students to maintain the regular routine.

ix) Provision of Feedback: Provision of feedback should be kept regularly so that students can clear their doubt and confusion regularly. Workshop/webinar/discussion forum can be organized for the students so that they can share their views and comment regarding the courses of their study as well as their personal problems.

5. Key Findings: The key findings of the study are as follows-

- a) Online education occupies an important place in today's education system.
- b) It has become the only means of communication between teachers and students during this global pandemic situation.
- c) Because of various problems such as low internet connectivity, ignorance of the students, lack of sufficient E-Resources, lack of smart phones among the students, less possibility of practical classes, problems in assessment, etc. hampers the smooth running of online education.
- d) By taking some suitable measures like improvement of internet services, organization of training programme, maintenance of regular routine, provision of frequent feedback, organization of motivational programme for students and teacher, guardian online meet, etc., the problems of online education can be minimized.

6. Conclusion: The online education is the sudden demand of this pandemic situation. Various online learning means need to be adopted in this situation because it becomes the only means of teaching-learning process. But because of various reasons such as lack of proper internet connectivity, improper knowledge in using online learning tools, lack of cooperation and motivation, ignorance of the students, etc., online education have not been as effective as it should have been. But in today's global pandemic, we can't deny the significance of online education. With the above mentioned suggestions, we should proceed with hope and faith in the journey of online education for making it more effective and fruitful.

References

- Manya Suresh, M., Priya, V. V., & Gayathri, R. (2018). Effect of E-Learning on academic performance of undergraduate students. *Drug Invention Today*, 10(9), pp.1797-1800. <http://jpr solutions.info/files/final-file-5b69226173a1e0.35075172.pdf>
- Rudaleva, I., Kabasheva, I. & Kovaleva, E. (2016). The Effectiveness of E-Learning: Based on Students' evaluation. *SHS Web of Conferences* 26, 01128. https://www.shs-conferences.org/articles/shsconf/abs/2016/04/shsconf_erp2016_01128/shsconf_erp2016_01128.html
- Trakru, M. & Jha, T. K. (2019). E-Learning Effectiveness in Higher Education, *International Research Journal of Engineering and Technology*, 6(5), pp. 96-101. <https://www.irjet.net/archives/V6/i5/IRJET-V6I520.pdf>

How to Cite this Article

Hazarika, M. (2021). Problems and Prospects of Online Education During Covid-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 69-71). Badan Barman.

Open Access and its Role in Online Teaching-Learning

Ms. Maya Deori

Research Scholar, Department of Library and Information Science
Mizoram University, Aizawl-796004
Email: mayadeori94@gmail.com

Dr. Manoj Kumar Verma

Associate Professor, Department of Library and Information Science
Mizoram University, Aizawl-796004
Email:manojdlis@mzu.edu.in

Abstract

This paper discusses a conceptual view of open access movement in general and its role in online teaching and learning with the initiation of open educational resources. The concept of open access is not merely new but many of the users and creators are still unaware of its main meaning and benefits. The purpose of this paper is to define the actual meaning of the term open access and its advantages both for the creator and users. It also explains the approaches or routes through which the articles can be published in open access publication and gives a detailed view of the six licenses of creative commons (CC). Libraries also have a defined role and advantages in popularising the open access (OA) movement and open access also plays a greater role in online teaching and learning through open educational resources (OER).

Keywords: Open Access (OA), open access movement, online teaching and learning, open education resources (OER), scientific publication

1. Introduction: With the advent of Information and Communication Technology (ICT), online teaching and learning have drastically gained acknowledgement in higher education. The Internet age has more or less taken over the traditional ways of teaching and learning, which means immensely developing and accepting to the web world. Increasing availability of a vast number of digital or electronic resources has made learning easier for teachers and information seekers. Simply, online teaching and learning are the ways that a tutor or a learner adopts to express, share and gain knowledge through online mode using electronic resources. Synonymously, it can be called e-learning or online learning. Electronic resources or e-resource are generally the materials in digital format which is accessible electronically anytime, anywhere within the network coverage area. But, recently, it is often seen that most of the resources have been restricted for use through various policy systems and the digital divide. The open access publication and open educational resources movement intends to give out such barricades and focus on gaining and disseminating information freely. The concept of open access is the access or retrieval of scholarly publications through online medium immediately with no restriction. With the introduction of open access, the barriers of information restriction have been constantly decreasing. In both open access and subscription-based publications, a standard quality review is followed with a major difference in required fees. In the subscription-based publication, the user requires to pay for the materials they are seeking for while in open access no fee is required in access resources on the internet but a minimum cost is involved in establishing the infrastructure of open access which is usually quite cheaper than a long term subscription of resources. Eventually, the open access movement focuses mainly on scholarly publishing which has a direct benefit to the users by allowing access to free of cost publication as well as for authors of the scholarly publication by providing greater visibility and sharing of their work.

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

impact to enhance education. This initiative was also focused to diminish the digital divide by sharing the learning between the poor and the rich and satisfy the thirst for knowledge.

BOAI defines open access as “*free availability on the public internet, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use them for any other lawful purpose, without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. The only constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give authors control over the integrity of their work and the right to be properly acknowledged and cited*”.

Later, after the meeting held in Budapest, on 13th April 2003, some of the personages of Howard Hughes Medical Institute, USA, like biomedical researchers, editors, publishers, funders and librarians, gathered defined open access more deliberately, which is known as Bethesda Statement.

An open access publication must undergo the two following conditions:

- a) The author(s) and the copyright holder(s) grant(s) to all the users promises a free, irreversible, interminable right to access to the author(s) contribution across the world and also permits to copy, use, disseminate, transmit present the work freely in digital format for any accountable reason and provide proper attribution of authorship as well as provides the permission to make a little number of photocopies for personal use.
- b) A full record of work and all supporting materials, including a copy of the permission as stated above, should be archive in at least one repository in a technically standard electronic format instantly after the initial publication that encourages and supported by an academic institution, scholarly society, government agency, or other well-established organization that seeks to enable open access, unrestricted distribution, interoperability, and long-term archiving like PubMed Central for the biomedical sciences

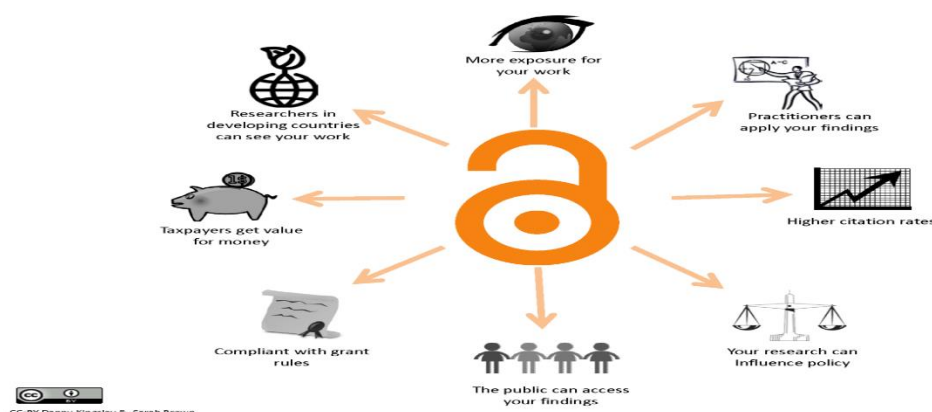


Figure-1: Significance of Open Access

(Source: <http://www.oaacademy.org/why-open-access.html>)

Finally, soon after the Bethesda Statement, the Berlin Declaration on open access to knowledge in the sciences and humanities was published in a conference. The Berlin Declaration was similar to Bethesda Statement but with additional recommendation i.e. to deposit a copy of a published document in an open access repository and to encourage the authors to publish in a suitable open access journal.

3. Approaches to Open Access: All the scientific output of any researchers like journal articles, book chapters, books, or conference articles can be made freely and publicly available in two structured ways. The two approaches were determined by BOAI which tends to the peer-reviewed literature visible throughout the world. There are:

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

a) Green Route or Open Access Repositories: There are many forms of green open access but it is usually defined as the self-archiving, an article in a repository, or on a personal website. Self-archiving can be simply called as the process of archiving the published articles by the authors themselves to increase visibility. The repositories will govern to a certain level where the content will be easily exposed and connected forming a network through different web search engines to create one large open access database around the world. All the contents of the database will be indexed by Google Scholar and other search engines. Some of the repositories for self-archiving are:

i) *Institutional Repositories:* An institutional repository is a database of collection of output, content, or assets of their institution or organization in digital format for worldwide visibility and acknowledgment. Institutions build repositories by using open source software like DSpace, EPrints, Greenstone, etc.

ii) *Subject-specific Repositories:* The name Subject-specific repositories itself describe its meaning which is the digital collection of the content of a particular discipline created by authors by archiving in a repository or by ‘harvesting’ content from other repositories by creating a central server. Some of the examples of Subject-specific repositories are ‘arXiv’, PubMed Central (PMC), E-LIS, PhilArchive, etc.

b) Gold Route or Open Access Journals: The Gold route allows immediate and permanent open access to the final version of an article through the publisher's website to anyone across the world freely instantly after published. The gold route of open access publication can be achieved by payment of an article publishing charge to the publisher by the author, their institution, or their funder which eventually allows them to attain the copyright of the publication. The gold open access publications are generally offered by the three types of a scholarly journal as follows:

i) *Fee-based Open Access Journals:* Fee-based open access journals are the journals where the users will access the article free of cost online immediately after publication but the author(s), institutions, or funder need to pay an OA publication fee or article processing charge (APC) to the publishers. For the publishers like Elseviers (2960 journal, 48,300 books), Springer journals, Public Library of Science (PLOS), there is a fee to pay a certain amount as article processing charge for publication by the author(s) himself or the funders. The Directory of Open Access Journals (<https://doaj.org>) includes information for 15,047 OA journals from 133 countries and 5,183,029 articles. 12,065 journals are searchable at the article level.

ii) *Hybrid Journals:* The hybrid journals are the journals which possess both the open access articles and also the subscription-based articles. In this type of journal, there is a provision to allow the author to choose the ways to publish the article immediately after the acceptance of the article by the publishers. Example: Elsevier.

iii) *Subsidized Journals:* Subsidized journals are the journals in which the articles are available freely and online for the users and also the authors are debarred from paying the article processing charge. These journals are fully supported and encouraged by the government, affiliated organizations, or a society by providing funds for publication in OA. Example: Journal of Biomedical Research and Reviews.

4. Creative Commons (CC) Licenses: Open access publication directly depends on the copyright provided by the author himself. In open access publication, the author will hold its ownership but has a desire to share and have visibility across the globe. Creative Commons license is the most appropriate licensing for open access publication. Creative common is a non-profit organization launched on 15th May 2001, which helps the creator to gain its ownership but also helps to overcome the legal barriers in sharing the knowledge and encourages creativity. With creative commons license, the content shared can be copied,

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

downloaded, disseminated, edited, reused and built upon within the copyright policies. The six categories of creative commons licenses are:

- i) *Attribution*: This license allows the users to share, distribute, disseminate, remix, modify, even commercially but it is necessary to acknowledge the original work. The license is symbolized as CC BY. This license is regarded as most considerate among all the licenses which prioritize maximum dispersal and utilization.
- ii) *Attribution-ShareAlike*: This license is represented as CC BY-SA. This license is not much different from attribution license, which permits the users to copy, re-use, remix, and even commercialize but with the condition of proper acknowledgment and that derivatives must also be made available to the public on the same terms as the previous works. This license is rather influenced by 'copyleft' free and open source software licenses. Wikipedia uses this CC BY-SA license.
- iii) *Attribution-No Derivatives*: This license is denoted by CC BY-ND. This license usually permits the user to reuse and remix the original work for any purpose, even commercial but does not allow to share the remix or modified work and gives importance to provide credit for the original work.
- iv) *Attribution-Non-Commercial*: This license is represented as CC BY-NC. This license usually permits to use, reuse, remix, adapt and modify but do not ask for commercialization of the work with proper credit. It restricts commercialization and users don't have a license for their derivative works on the same terms.
- v) *Attribution-Non-Commercial-ShareAlike*: This license is denoted by CC BY-NC-SA. This license permits users to use, remix, modify the original buntion-commercial with proper acknowledgment. This license also allows users to create their work under similar terms.
- vi) *Attribution-Non-Commercial-NoDerivatives*: This license represents CC BY-NC-ND. This license has the most restrictions among all six. Here, the users are only permitted to download and share among others but can't modify the original work with proper credit to the author. This license also restricts from commercializing.

5. Benefits of Open Access: The open access movement has gradually been accepted and supported by many. The OA movement itself has brought out several benefits for the scholarly publication itself and its author(s), their institutions and grant funders.

- i) OA diminishes all the price barriers and debars restrictions copyright permission for the users.
- ii) OA can enhance relevant, valuable, recent literature search.
- iii) OA will help to access free information more quickly than accessing information from a subscription-based publication from the libraries.
- iv) OA movement will lead to a decrease in the biases of digital divide among the poor and rich uniting humanity.
- v) OA provides greater visibility on a global level to the author(s), their works and their institutions.
- vi) With greater visibility, the author will receive more citations and recognition for their work.
- vii) OA also encourages interdisciplinary research since it has become easier for one discipline researcher to use the literature of the other discipline.

6. Role of Libraries in Open Access: The foundation of open access does not merely design with the existence of libraries but still, libraries can always be benefited through it. Some of the key benefits that libraries can acquire from open approach noted down below:

- i) *Encourage users to access OA works*: Since the main motive of libraries is to benefit the users by providing the information they are seeking for and through open access articles it

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

would be a lot easier for the library professionals. Libraries with their facilities can encourage and monitor their users to the dynamic coverage of OA materials.

ii) *Digital Publishers of OA Works*: Nowadays, libraries do not only store scholarly information, but also have become digital publishers by creating institutional repositories through free open source software to offer free or open access journals or articles. Definitely, for the implementation of this project, there will be certain requirements like hardware/software, cost, and manpower. But this will boost the services or facilities of that particular and satisfy its users.

iii) *Free/Open Access Journals and Books*: Most of the renowned libraries today, publishes free/open access journals or books for its users and recognition. Some of the examples of libraries publishing free/open access journals are University Press by Cornell University Libraries, Electronic Green Journal by the University of Idaho's Library.

iv) *Institutional Repositories*: Libraries can eventually help in creating an institutional repository using open source software like DSpace, Eprints, or by assisting in designing the user interface or in creating the IR metadata and many more.

v) *Subsidize Author Fees*: Libraries can help the author(s) by subsidizing or reducing the article processing charge through institutional memberships for publishing in OA journals. In this way, libraries can support the open access movement, and make use of its benefit available to all users across the world, which will be a two-way benefit for both.



Figure-3: Correlation between Libraries and Open Access Content

(Source: <https://slideplayer.com/slide/15022706/>)

7. Role of OA in Online Teaching and Learning: Presently, online teaching and learning have gained much more popularity and recognition mostly among professional learners. Online teaching and learning can be regarded as a convenient and flexible mode for both teaching and learning with internet connectivity. Online teaching is a new medium for instructors to make use of their new ideas and techniques for better understanding by using different multimedia tools. Online learning is student-centered learning unlike the traditional mode of learning and also offers collaborative learning and easy access to global resources. In open education, online materials are as important as network connectivity. Online materials are the resources that are available in digital mode and can be shared with others over the web. Online material or open access materials will be much more beneficial for the instructors as well as the learners as it provides open, online, immediate access to resources or material with no or fewer restrictions.

Generally, the educational materials or the resources which are available on the web with little or no restriction not for commercialization are usually referred to as open

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

educational resources (OER). OER was first introduced by UNESCO in 2002 and defined as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use, and adaptation by a community of users for non-commercial purposes". Open educational resources offer advantages and opportunities for the instructors to use the non-restricted educational resources and also can share and get recognition among global audiences. The open access movement and OER mainly rely on enabling the availability of the research materials to the users and also enable the authors to publish their work freely to provide greater visibility across the globe. The open access movement mostly relies on the availability and easy production of educational materials over the internet with no distribution cost. The learners and teachers can support the open movement by creating, publishing and also benefited from it. Online teaching and learning through OER and OA movement can debar the digital divide of the economic barrier of learners and enhance the development of uniting humanity.

8. Conclusion: The open access movement will initially change the model accessing and publishing information in every discipline. The initiative of the open access movement is to promote free access and the creation of knowledge as a human right. With the introduction of open access in Budapest Open Access Initiative (BOAI), 2001, the accession of scientific information is cost-free by alleviating the economic barriers. OA has benefitted both the creators and receiver in many ways i.e. worldwide visibility, free access. It also lets the users use, re-use, remix, adapt and build upon the origin work under certain creative commons licenses. The creators of the knowledge have to choose different approaches to publish their work i.e. green and gold and need to pay a certain amount as the article processing charge (APC). Through open access movement, the learners, contributors and libraries have the main benefits by accessing all the open access materials with few or no restrictions without having to purchase the subscription-based journals. Open access movement also plays a role in online teaching and learning by providing the open educational resources all for free with no barriers and with the option to modify and share debarring the digital divide among information seekers.

References

- Akterian, S. (2018). *Towards open access scientific publishing*. March. <https://doi.org/10.14748/bmr.v28.4459>
- Alexander, D., Cowden, C., Petrof, L., Clancy, K., Lewis, L., & Puccio, P. (2013). *Guide to Establishing an Online Teaching Program*. 27.
- Budapest Open Access Initiative. (2002). *Budapest Open Access Initiative*. Read the Budapest Open Access Initiative. 2–3. Retrieved July 28th, 2020 from <http://www.budapestopenaccessinitiative.org/read>
- Conroy, R., Elliott, C., & Fabbro, E. (2019). Libraries, OERs, and Open Access. *Open Access Week*. August 12th, 2020 from <https://slideplayer.com/slide/15022706/>
- Creative Commons (2017). About The Licenses. *Creative Commons*. Retrieved July 28th, 2020 from <https://creativecommons.org/licenses/>
- DOAJ (2020). About. *DOAJ Directory of Open Access Journals*. August 9th, 2020 from <https://doaj.org/about>
- Elsevier (2020). About Elsevier. *Elsevier*. Retrieved August 9th, 2020 from <https://www.elsevier.com/en-in/about>

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

- Gasparian, A. Y., Ayvazyan, L., & Kitas, G. D. (2013). Open access: Changing global science publishing. *Croatian Medical Journal*, 54(4), 403–406. <https://doi.org/10.3325/cmj.2013.54.403>
- Gray, E., Chattapadhyay, S., Wiens, K., & Scott, A. (2013). Is Open Access only for rich countries? *Policy recommendations from a series of global Open Access Dialogues undertaken in late 2012 and early 2013*. 7–9.
- Hatzipanagos, S., & Gregson, J. (2015). The role of open access and open educational resources: A distance learning perspective. *Electronic Journal of E-Learning*, 13(2), 96–104.
- Hylén, J., & Schuller, T. (2007). Giving knowledge for free. In *OECD Observer* (Issue 263). <https://doi.org/10.1787/9789264066021-ja>
- Jr., C. W. B. (2007). Open Access and Libraries. *Collection Management*, 32(3–4), 351–383. <https://doi.org/10.1300/J105v32n03>
- Kingsley, D. & Brown, S. (2016). Why Open Access. *Open Access Academy*. Retrieved 12th August, 2020 from <http://www.oaacademy.org/why-open-access.html>
- Model, D. O. F. A. (2014). *Open Access Repositories in India: Design and Development of a Model Library and Information Science*. Aligarh Muslim University.
- Ola, K. (2014). Fundamentals of Open Access. *SSRN Electronic Journal*, February. <https://doi.org/10.2139/ssrn.2382571>
- Poe, M., & Stassen, M. L. A. (n.d.). Teaching and Learning Online Communication, Community, and Assessment A Handbook for UMass Faculty Coordinator of Teaching Technologies, Center for Teaching. *Office of Academic Planning and Assessment Mei-Yau Shih*, 1–47. https://www.umass.edu/oapa/sites/default/files/pdf/handbooks/teaching_and_learning_online_handbook.pdf
- Prince, G., & Saravanan, P. (2015). A study on awareness and perception towards open access resources among the users in the higher educational institutions in Kanyakumari district. *International Journal of Next Generation Library and Technologies*, 1(3), 1–9.
- Redlich, P. D., Kochadze, P. T., Prof, A., Bosakov, V., Unjversjry, E., Instjrutjonal, N. E. W., For, S., & Tjng, C. (2016). *International Scientific Journal Science. Business. Society Publisher: Scientific Technical Union of Mechanical Engineering Chief Editor Prof. Dimitar Yonchev, Bulgaria*.
- Stern, J. (2018). Introduction to Online Teaching and Learning. *International Journal of Science Education*, 3, 1–10. <https://doi.org/10.1002/9781118784235.eeltv06b>
- UNESCO. (2012). Policy guidelines for the development and promotion of open access; 2012. In *Technology*.
- UNESCO. (2002). UNESCO promotes new initiative for free educational resources on the Internet. Paris: Author. Retrieved July 28th, 2020 from http://www.unesco.org/education/news_en/080702_free_edu_ress.shtml
- Zheng, Y. (2013). A movement in Academic Publishing: Open Access, Open Review, Open Science. *The EJBM Blog*. Retrieved 12th August, 2020 from <https://theejbm.wordpress.com/2013/10/23/a-movement-in-academic-publishing-open-access-open-review-open-science/>

How to Cite this Article

Deori, M., & Verma, M. K. (2021). Open Access and its Role in Online Teaching-Learning. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 72-79). Badan Barman.

The Dark Side of Technology: Technostress in the Library Environment

Pallabi Devi

Research Scholar, DLISc., Gauhati University, Guwahati, Assam

Email: devipallabi.pd@gmail.com

Abstract

The advancement in technology has become a blessing in disguise for the library professionals. Though it has undoubtedly improved and enhanced the library operations and services, at the same time it created many challenges. The usage of ICT technologies like integrated computer systems, multiple databases, CD-ROMs, Internet and World Wide Web (WWW) has given rise to enormous strain on the library professionals resulting in technostress. The term technostress refers to the feelings of anxiety or phobia in the minds of library professionals, which may arise either out of their involvement or over exposure with computer technology. This conceptual paper tries to highlight the issues related to technostress in the library environment. It examines the concept of technostress which includes- its definitions, factors inducing technostress, components of technostress, technostress in libraries and coping strategies to deal with it.

Keywords: Technostress, Techno Phobia, Computer Anxiety

1. Introduction: The implementation of sophisticated Information and Communications Technology (ICT) tools in modern libraries is inevitable for providing value added information resources and services to the patrons of the library. “An automated cataloguing, circulation and acquisition system has led to better management of library operations and improved services” (Omosor, 2014, p. 203). However, the widespread use of ICTs in the library environment and increasing dependency on the Internet has created many challenges to the library professionals. With the increasing levels of library automation, both library staff and users often have to deal with concerns over how technology is going to impact them. Vast amount of information is available in a wider variety of formats. Computer operating systems and software versions are changing so rapidly that by the time library staff and users get used to one version of the software, the next version gets released (Sami & Pangannaiah, 2006). During the last two decades, the advancement in ICTs have not only changed the library environment drastically but also altered work roles, expanded required skill sets, and increased uncertainty about future prospects of libraries and library services. Library professionals are constantly eager to adapt new technologies out of the fear of becoming obsolete resulting in technostress. The term technostress also used synonymously with technophobia, computer phobia, computer anxiety and computer stress, is one of the negative effects of the continuous use of ICT in libraries. It is the negative psychological link between people and the new technologies.

Many users found it very difficult to adjust to the new technology in the so-called automated library environment. Those library users, who were previously using library card, now have to become dependent on the library staff for using computer based indexes. Quinn (2000) opined that one of the most challenging problems that the librarians face at the reference desk is working with adult learners. The adult learners may become perceptibly uncomfortable, and appear confused, disoriented, or anxious when they come to know that the library card catalogue no longer exists, or now it is computerized in the form of Online Public Access Catalogue (OPAC). Adult users often feel inadequate, embarrassed, and even frustrated by their lack of computer skills, especially when they compared themselves to younger ones. Students of all ages may experience technostress to some extent, but adult learners seem more prone to it than younger students (DeLoughry, 1993).

How to Cite this Article

Devi, P. (2021). The Dark Side of Technology: Technostress in the Library Environment. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 80-84). Badan Barman.

2. Definition of Technostress: Brod (1984) a pioneer in the field of technostress, had coined and defined the term as “a modern disease of adaptation caused due to lack of an individual’s ability to cope with new computer technologies in a healthy manner. It manifests itself in two distinct but related ways: in the struggle to accept computer technology and in the more specialized form of over-identification with computer technology.” (p.16).

Though Brod (1984) looked at technostress as a disease, other researchers considered it more as an inability to cope with the changes brought by technology. David-Mallis (1998) identified technostress as a condition whereby a person has to adapt to new technology especially when there is inadequacy of the equipment, support, or the technology itself. Weil and Rosen (1997) defined technostress as any negative impact on attitudes, thoughts, behaviours, or body physiology that is caused either directly or indirectly by technology. According to Clark and Kalin (1996), the real definition of technostress is “resistance to change”. They claimed that technology is not the culprit because computers and technologies are just tools and stress is a natural reaction. Thus, they suggested that in order to manage technostress, it is the change that has to be managed not the technology.

3. Factors Inducing Technostress: There are generally two main groups of factors that induce technostress (Owusu-Ansah, Azasoo, & Adu, 2016):

a) Environmental Factors: These factor refers to poor working conditions, insufficient lighting, inadequate equipment, inadequate security measures, user incompatibility, noisy equipment, software limitations, lack of funding, electrical issues, risk of accidental data loss, insufficient knowledge and insufficient staff which may cause people to suffer technology-related stress.

b) Social Factors: These factors refer to conflict of interest caused by the use of technology, power struggles, work and role changes, anxiety over loss of employment, work fragmentation and hierarchical changes which may cause people to suffer technology-related stress.

4. Components of Technostress: Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan (2007) had described technostress as a problem of adaptation resulting from a person’s inability to cope with or get used to ICTs. They had developed five components of technostress which are described as:

a) Techno-overload: A situation where the ICTs users are compelled to work more and work faster.

b) Techno-invasion: A situation where ICTs users feel that they can be contacted anytime or anywhere thereby losing their privacy and free hours causing an unclear boundary between work-related and personal contexts.

c) Techno-complexity: A situation where ICTs users feel that their skills are insufficient because of the difficulty related to ICTs which compelled them to spend all their time and efforts in learning and understanding the use of new applications and updating their skills.

d) Techno-insecurity: A situation where the ICTs users feel insecure of losing their jobs, either being replaced by the new ICTs or by other people who have a better understanding of new gadgets and computing devices.

r) Techno-uncertainty: A condition where the ICTs users feel uncertain and mentally disturbed since ICTs are endlessly shifting and need upgrading.

5. Technostress in Libraries: Library professionals in academic libraries have to work in an ever changing technological environment. They cannot remain idle as they have to cater to the learning needs of the library users. They have to work with multiple and rapidly changing computer systems, upgrade the computer hardware and software, manage electronic resources,

How to Cite this Article

Devi, P. (2021). The Dark Side of Technology: Technostress in the Library Environment. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 80-84). Badan Barman.

meet the information demands of their parent institution, students, faculties, other staff, and maintain a balance between their personal life and work life. As noted by Al-Qallaf (2006) “today, librarians provide access to eclectic e-collections, create and maintain digital content, support e-learning, provide real time e-reference, negotiate contracts and licensing agreements and struggle with the economics of electronic information” (p.168). Therefore, the usage of ICT technologies like integrated computer systems, multiple databases, CD-ROMs, Internet and World Wide Web (WWW) has given rise to enormous amount of strain on the library professionals resulting in technostress.

Bitchteler (1987) observed that “accompanying the successful and exciting high tech revolution in libraries has been the occurrence of a number of physical, psychological and social problems among staff and patrons” (p.282). The exit from the manual methods of carrying out library services has no doubt improved the quality of services offered by the library to its patrons, but on the other hand it has also brought about a reasonable degree of technostress experienced by professional librarians while rendering library services. Research studies have shown that technostress affects both physical health as well as mental health of the library professionals. Majority of the library professionals found physical symptoms like eye strain, joint pain, back pain, headaches, hand and wrist pain, rapid heart rate, insomnia and other muscular problems as a result of technostress (Mahalakshmi & Sornam, 2012; Chauhan, 2018). The psychological symptoms of technostress include computer anxiety, tension, frustration, irritation, confusion, anger, nightmares and depression (Haneefa, 2016). Okine (2019) identified unrelenting stress, heart diseases, brain damage, low job commitment, computer anxiety and rigidity of workflow as effects of technostress among professional librarians and paraprofessionals.

Kupersmith (1992) in his survey discovered that information overload, networking problems, security issues, computer hardware and software, ergonomics and vendor-produced databases as some of the leading causes of technostress for library and information professionals which may result in poor level of job performance. Bartlett (1995) had stated that causes of technostress such as insufficient training to the library professionals and the lack of standardization in the library affects the librarians physically and psychologically. According to Ennis (2005), librarians experienced technostress especially due to the reasons such as pace of technological change, lack of proper training, increased workload, lack of standardization of hardware and software and changing roles of librarians. Owolabi, Aregbesola, & Oyesola (2015) stated that sitting in front of computer for long period was found to be the major cause of technostress among library staff resulting in redness of eyes as well as back and neck pain, while computer phobia and other ICT tools was reported to be the least cause of technostress.

The adoption and utilization of ICTs have no doubt tremendously improved library routine jobs such as information collection, processing, organization, storage, packaging and dissemination. However, the library professionals while carrying out their library routine jobs have to interact with the computer and other tools of information technology for long hours. The job of library professionals is mostly sedentary and therefore, they tend to spend quality time in front of the computer in order to enhance their productivity. Hence the combination of intensive technology use and work demands has resulted in an increase in computer-related anxiety or stress.

6. Coping Strategies: The following strategies are recommended to the library stakeholders for coping with technostress in the library environment:

- a) Technology based education and training to both library staff and users;
- b) Developing positive attitude towards technology;
- c) Providing adequate equipment and technical support;

How to Cite this Article

Devi, P. (2021). The Dark Side of Technology: Technostress in the Library Environment. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 80-84). Badan Barman.

- d) Purchasing user friendly hardware and software;
- e) Regular break intervals while using technology;
- f) Avoid multitasking;
- g) Effective time management;
- h) Regular physical exercise and meditation;
- i) Stress inoculation training;
- j) Work recognition by way of rewards publicly; and
- k) Better ergonomics practice.

7. Conclusion: It is evident that in the 21st century, ICTs have undoubtedly revolutionised modern day life, but at the same time it has also brought with it new problems. Today, the application of technology has become a trend in libraries as technology has generally been found to enhance the efficiency and effectiveness of library services. Nevertheless, it is essential to realize the negative impacts of technology. It has become very critical in recent times for library professionals to be abreast with the latest technology in order to continue to be relevant in their profession. Library professionals need to adjust themselves with the changing library environment and new formats of technologies; develop new technological skills and learn to handle different metadata applicable in the libraries. Libraries should select both hardware and software applications that fit their working environment. This is very essential because the library environment will keep changing to keep pace with technological developments. Hence, it is necessary to create awareness about technostress and its effects and possible ways to manage it. The easier the library professional interacts with the technological system, the less technostress will be created.

References

- Al-Qallaf, C. L. (2006). Librarians and technology in academic and research libraries in Kuwait: Perceptions and effects. *Libri*, 56 (3), 168-179. Retrieved from https://www.researchgate.net/publication/240754789_Librarians_and_Technology_in_Academic_and_Research_Libraries_in_Kuwait_Perceptions_and_Effects
- Bartlett, V. (1995). Techno-stress and Librarians. *Library Administration and Management*, 9(4), 226-230. Retrieved from <https://eric.ed.gov/?id=EJ513748>
- Bichteler, J. (1987). Technostress in libraries: Causes, effects and solutions. *The Electronic Library*, 5(5). Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/eb044766/full/html?skipTracking=true>
- Brod, C. (1984). *Technostress: The Human Cost of the Computer Revolution*. Reading: Addison-Wesley.
- Chauhan, K. (2018). The Influence of Technostress on Productivity among OPJGU Library Professionals. *Indian Journal of Library and Information Science*, 12(2), 83-88. Retrieved from <https://dx.doi.org/10.21088/ijlis.0973.9548.12218.2>
- Clark, K. & Kalin, S. (1996). Technostressed out? How to cope in the digital age. *Library Journal*. 121(13), 30–32. Retrieved from <https://eric.ed.gov/?id=EJ529677>
- Davis-Millis, N. (1998). Technostress and the Organization - A Manager's Guide to Survival in the Information Age. Retrieved from <https://web.mit.edu/ninadm/www/mla.htm>
- DeLoughry, T. (1993). 2 researchers say “Technophobia” may affect millions of students. *Chronicle of Higher Education*. Retrieved from <https://eric.ed.gov/?id=EJ462778>
- Ennis, L. A. (2005). The Evolution of Techno Stress. *Computers in Libraries*, 25(8), 10-12. Retrieved from https://www.researchgate.net/publication/234715757_The_Evolution_of_Technostress

How to Cite this Article

Devi, P. (2021). The Dark Side of Technology: Technostress in the Library Environment. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 80-84). Badan Barman.

- Haneefa K., M., K. P., S., & O. K., B. (2016). *Technostress among library professionals*. Retrieved from https://www.researchgate.net/publication/305298530_Technostress_among_Library-Professionals#:~:text=It%20was%20revealed%20that%20eye,the%20major%20cause%20of%20technostress
- Kupersmith, J. (1992). Technostress and the Reference Librarian, *Reference Services Review*, 20(2). Retrieved from https://www.greatbasin.net/~jkup/tstr_ref.html
- Mahalakshmi, K., Sornam, S. Ally. (2011). Technostress among library professionals of Anna University of Technology, Coimbatore. *PERL- A Journal of Library and Information Science*, 5(3), 9-12. Retrieved from <https://www.indianjournals.com/ijor.aspx?target=ijor:pjolis&volume=5&issue=3&article=002>
- Okine, H. (2019). *Technostress among the staff of College of Health Sciences Library, University of Ghana* (Ph.D. thesis). Retrieved from <https://ugspace.ug.edu.gh>
- Omosor, U. A. (2014). Effect of Technology on Librarians in Academic Libraries in Nigeria. *Journal of Information and Knowledge Management*, 5(2), 203–211.
- Owolabi, S., Aregbesola, A., & Oyesola, O. (2015). Technostress, Library Staff and Productivity: Ray on Landmark University Library. *Journal of Applied Information Science and Technology*, 8(1), 9–15. Retrieved from https://www.researchgate.net/publication/277301726_Technostress_Library_Staff_and_Productivity_Ray_on_Landmark_University_Library
- Owusu-Ansah, S., Azasoo, J. Q., & Adu, I. N. (2016). Understanding the effects of technostress on the performance of banking staff. *International Journal of Business Continuity and Risk Management*, 6(3), 222–236. Retrieved from <https://doi.org/10.1504/IJBCRM.2016.079010>
- Quinn, B. (2000). Overcoming Technostress in Reference Services to Adult Learners. *The Reference Librarian*, 33(69–70), 49–62. Retrieved from https://doi.org/10.1300/J120v33n69_05
- Sami, L. K. & Pangannaiah, N.B. (2006). “Technostress” A literature survey on the effect of information technology on library users. *Library Review*, 55(7), 429 – 439. Retrieved from <https://dx.doi.org/10.1108/00242530610682146>
- Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2007). The impact of Technostress on Role Stress and Productivity. *Journal of Information Management Systems*, 24(1), 301 - 328. Retrieved from <https://doi.org/10.2753/MIS0742-1222240109>
- Weil, M. M., & Rosen, L. D. (1997). *Technostress: Coping with Technology @Work @Home @Play*. Hoboken: John Wiley & Sons.

How to Cite this Article

- Devi, P. (2021). The Dark Side of Technology: Technostress in the Library Environment. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 80-84). Badan Barman.

Stress Management by the Women Library Professionals in Assam

Dipika Das

Librarian, Dibru College

Email: librariandipika79@gmail.com

Abstract

Stress depends on the mental condition of people. It can be physical, emotional, situational, etc. and these play an important role in affecting the lives of individuals. Today, in the situation of pandemic COVID-19, people cannot visit libraries in search of books and information but library professionals have to reach each and every reader to provide the required information. This study aims to find out the various physical and mental stresses and anxiety occurring among the women library professionals and to evaluate the satisfaction they get as a library professional.

Keywords: Stress, Technostress, Covid-19, Women Professionals

1. Introduction: Stress is a very simple word. It depends on mental condition of people. It can be physical, emotional, situational, etc. and these play an important role in effecting the lives of individuals. It is seen in every profession for the competitive life of modern world. The increasing usability of science and technology and new productivity of it have extended their activities to human life. People would be bounded to adopt new technologies to move forward their lives. There is no room for natural attachment in day-to-day life. As we know nature and science are two sides of the same coin. Like the words of Sivakar Jana, “It is better to call, the present society as an “age of stresses””.

2. Background of the Study: To meet the need of the virtual society of users every library professional has to adopt the various online teaching – learning tools and to make well converse with recent advancement of digital environment. They have also to impart information literacy programme for users.

Ranganathan says that Reference Service is a service which provides right information to right reader at right time in a right personal way. He pens that “Every reference librarian should strive, invoking the full weight of his will, to realize this delightful state of contact with the readers and the books in his daily life.”

Today, in the situation of pandemic COVID-19, people cannot visit library in search of books and information but library professionals have to reach each and every reader to provide the required information. Reference Library staff can provide information to readers through e-mail, WhatsApp, messages, blogs and websites in modern era. They can be extended their services using TeamLink, GoToWebinar, Zoom, Cisco Webex, Google Meet, etc.

Earlier library profession was only a service-oriented but now it becomes the teaching, learning and service oriented one. The characteristic of the profession has changed but the professional ethics of librarianship is deeply rooted in Indian Culture.

3. Objective: The objectives of the study are

- a) To find out the various physical and mental stresses and anxiety occurs among the women library professional.
- b) To evaluate the satisfaction, they get as a library professional.

4. Methodology and Scope: This study has carried out with questionnaire and interview method. The primary and secondary data are also being used.

How to Cite this Article

Das, D. (2021). Stress Management by the Women Library Professionals in Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 85-89). Badan Barman.

The respondents are the women library professionals located within the geographical area of Assam. A total of 35 nos. of professionals from different schools, colleges and universities responded to this study.

5. Definition: The word stress comes from natural science. The concept of stress is discussed and new research has done from 18th to 19th century. Like every natural phenomenon stress has also two different aspects. Here stress has defined with two negative and one positive definitions.

According to the Oxford English Dictionary (2008), stress is “*an adverse circumstances that disturbs, or likely to disturb, the normal, psychological functioning of an individual, such circumstances collectively result a disturbed state.*”

According to the National Institute for Occupational Safety and Health (2008) “*Job stress can be defined as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury.*”

According to Han Selye (1956) “*stress is not necessarily something bad -it all depends on how you take it. The stress of exhilarating, creative successful work is beneficial, while that of failure, humiliation or infection is detrimental.*”

6. Causes of Stresses among Library Professional: The causes of stress among the Library and Information Science professionals can be grouped into the following-

a) Workload at Office: Each and every library has routine work. Sometimes the library personnel feel that his/her role is overloaded qualitatively or quantitatively.

b) Time Pressure: Library hours demand quality time. In case of some staff, they feel hectic and caused stresses.

c) Technological Disturbance: The library staff have to use technological tools. The computer screens can bring detrimental effect to the library personnel. As such constant sitting in front of computer can cause spondylosis and eye-strain.

d) Personal Inadequacy: In library e-environment staff have bound to engage with various technological tools and techniques. Some library staff feel that they are not equipped or have necessary skills or knowledge to perform effectively.

e) Resource Inadequacy: Some library staff feel that they are not provided with nascent information and adequate resources and it causes stress. Frequently changing syllabi also leads to stress on personnel.

f) Decreasing Personal Time: Sometimes the library works are increased and demand overtime, it decreases personal time of staff and can cause stress.

g) Reduction of Staff Strength: Work division among library staff is a common phenomenon. Sometimes staff are decreased by the authority and it can cause stress.

h) Insecurity of Job: There is limited scope for library professional to undergo in service training programme, higher studies, refresher course, etc. It has increased stress for job security. Further, there is a fear for replacement of LIS professional by IT professional that has create a sense of insecurity among LIS professional about future prospect in service life.

7. Analysis: It is found that 69% of the respondents were Librarian, 19.4% of respondents were Assistant Librarians, 8.3% of respondents were Library Assistant and 2.8% of respondents were Assistant Professor. It shows that the highest number of women library professional are engaged as Librarian and lowest number of women library professionals are engaged as Assistant Professor.

Sl. No.	Designation	Percentage (%)
---------	-------------	----------------

How to Cite this Article

Das, D. (2021). Stress Management by the Women Library Professionals in Assam. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 85-89). Badan Barman.

1.	Librarian	69.4%
2.	Assistant Librarian	19.4%
3.	Library Assistant	8.3%
4.	Assistant Professor	2.8%

Table-1: Designation of the Respondents

Sl. No.	Time Involvement	Hours per day
1	Time given in institute	6.18 hours
2	Time given in front of computer	1-2 hours 8.3% 2-4 hours 47.2% 4-8 hours 41.6%
3	Time at home	8.14 hours
4	Time given for children	3.71 hours
5	Time for social service Responded by: 48% Not responded by: 51.4%	1-2 hours 37.1% 2-4 hours 11.4% 5-7 hours 2.9%
6	Time given for creative personal work	1-2 hours 52.8% 2-4 hours 33.3% 5-10 hours 14%

Table-2: Time Involvement of Library Professional

The above table shows that the respondents able to manage a balanced in between different activities. It can be derived that all the respondents used to give time at their institute properly. Almost half of the professionals use computer to smoothly perform their house keeping activities of libraries. It is a good sign of women library professional that they handle computer smoothly, they provide information literacy programme for users. But they feel technostress because the staff strength of their libraries are weak and no technical staff are available at any workplace.

The women library professional give 6.18 hours of time in institute, 8.14 hours at home and 3.14 hours per day for children. 48% of them engaged in social service. All the women library professional involves in creative work.

Sl. No.	Environment	Separate Lavatory	Sexually Abuse	Cooperation with Authority	Cooperation with Colleague	Overall Stress
1	Highly satisfactory 22.9%	No 51.4%	Yes 2.8%	Highly satisfactory 22.8%	Highly satisfactory 22.9%	Yes 74%
2	Satisfactory 65.7%			Satisfactory 74%	Satisfactory 77.1%	No 25%
3	Not satisfactory 11.4%			Not Satisfactory 11.4%		

Table-3: Stress Inside the Workplace

The working environment of the women professional is almost satisfactory. 51% women has no separate female lavatory. It increases stress in workplace. It is found that a smaller number of women are abused sexually. It shows that even the educational institutions are not fully secure for women. If the mindset of male colleague or male

How to Cite this Article

Das, D. (2021). Stress Management by the Women Library Professionals in Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 85-89). Badan Barman.

authorities are not changed, the stress will remain for the women professionals. Overall, 74% of the women library professional face stress in their workplace.

Sl. No.	Level	Percentage (%)
1	High	2.9%
2	Medium	34.2%
3	Low	17.1%
4	No	45.7%

Table-4: Professional Life Hampers the Family Life

The above table shows that most of the respondent's family life are hampered by their professional life whereas 45% feels that their professional life does not hamper their family life.

Stress			No stress
77.1%			22.9%
High	Medium	Low	
11%	66.7%	22.2%	

Table-5: 7.5. Stress on Coming Back to Home

The above table shows that three fourth of the total respondents feel stress after coming back to home. Most of them are medium level of stress. A smaller number of respondents (22.9%) do not feel stress after coming back to home.

8. Findings: The following are the major findings of the study-

- Library and Informaiton Science is a good profession for women people. 17% of the women LIS professional got social reward or good remarks for their professional activities.
- All women people adopt some techniques for reducing stress like yoga, meditation, prayer, music, reading, laughing, walking, etc.
- Three fourth of the total respondents have got cooperation with colleague and authority.
- In workplaces number of computers are in between 5-16 but there are no technical staff to handle them.
- Half of the respondents do not have separate female lavatory.
- One respondent was sexually abused.

9. Recommendations: From the study following recommendations can be made-

- Women need to work as a team to prevent the harmful effect of stress.
- Work stress should be minimized by integrating new skills into professional capabilities.
- Technological skills should be continuously acquired.
- To maximize the cooperation with colleague and authority communication skill should be improved by the women professionals.
- Women professionals should give attention to physical health and hygiene.
- To increase self confidence among library staff, workshop, training or hand-held sessions should be organized.
- Attending yoga classes and doing regular exercise will decrease the professional stress.
- Listening music also heals the stress. Reading makes 68% stressless which is found in a research output of Sussex University.
- Women should always care about high dignity and values.

How to Cite this Article

Das, D. (2021). Stress Management by the Women Library Professionals in Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 85-89). Badan Barman.

10. Conclusion: The professional competency and a dream based on reality will not produce stress. The library professionals are always ahead to lessen the hurdle of time. Stress occurs with the changing environment. Every people have inherited ability to adopt the new challenges. The women are not differed from that. They do professional works with caring children in a balanced way. Although they feel various stress, they reduce it by adopting various techniques and provide better services at workplace. Again, medium level of stress is good to cope up with challenges.

References

Laloo, B. (Ed). (2010). Personality development in the library Professional. Meghalays: NEHU, DLIS.

How to Cite this Article

Das, D. (2021). Stress Management by the Women Library Professionals in Assam. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 85-89). Badan Barman.

Stress in an Online Classroom amidst Pandemic 2020

Ms. Aishwarya Eduri

Student, St. Francis College for Women, Hyderabad

Email: linsina2903@gmail.com

Ms. Rhythm Dewani

Student, St. Francis College for Women, Hyderabad

Email: rhythm.dewani110@gmail.com

Ms. Smrithi Sanjeev

Student, St. Francis College for Women, Hyderabad

Email: asmrithisanjeev@gmail.com

Dr. Dipti Soni Jaipurkar

Assistant Professor, Dept. of Biochemistry, St. Francis College for Women, Hyderabad

Email: jaipurkar_diptisoni@gmail.com

&

Ms. S Malathi Varma

Assistant Professor, Dept. of Biochemistry, St. Francis College for Women, Hyderabad

Email: malathivarma.s@gmail.com

Abstract

This study ventured the stress that develops with online classes, the challenges and the issues. The dominant explanation trying to be focused in this study was the challenges and issues that layered with Global Emergency that has shutdown nations towards infection control, bringing hold on academic interests of students. Data collected in the form of surveys amidst the lockdown was used to decompose the correlation between online education and its consequences over students' mental, physical and emotional health.

Contrary to the narrative assumed, there was potential rise in stress, largely attributed to the rapid evolving changes in the environment incorporated with online mode of teaching. The purpose of this study was to determine the perceived stress scale of students of different age groups and the effectiveness of online education. Several studies have reported the influences of screen time on health, which has abruptly increased. The survey singularly sorted the effects observed among our test subjects to project an anomaly. This article urges the downside of online teaching which could neutralise the demerits and enhance the quality of learning to every student. This framework would make us presume the influence on one's cognitive capabilities post stressful experience.

Keywords: *Students Stress during Covid-19, Pandemic 2020, acute-stress, lockdown, depression, e-learning, screentime.*

1. Introduction: "The one thing that is certain in life is uncertainty and learning to live with insecurities, is the only security," said John Allen Paulo. WHO declared novel coronavirus as a pandemic on March 11, 2020, from being identified as pneumonia-like from Wuhan, China on 31st December 2019 (World Health Organization, 2020 April). This global health crisis was expected to be controlled with the influence of all governments, businesses, communities, families, and individuals' cooperation and the risk of transmission was called for an international emergency. Over 200, both developed and developing countries have been affected (World Health Organization, 2020). As the outbreak started escalating, the Indian Government decided to have a nationwide lockdown, which interrupted the daily chores, offices, and academics (The Lancet, 2020, April 25). State governments demanded the closure of educational institutions, cinema halls, swimming pools, and gyms.

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipurkar, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

Unaware that it could ever be comprehended in such a way where the entire world comes at a standstill and we all are forced to live in solitude. As the Test Positivity Rate (TPR), was rapidly doubled, the virus has shown no mercy on humanity, therefore prevention was the only strategy to keep the population safe. With no scope of reopening the new academic year, many institutions opted for virtual classes ultimately amplifying the existence of electronic environments in student's lives. Not just the existence of the pandemic but as students encountered with the infamous online classes for this particular academic year it largely resulted in stress and anxiety. "2013 Survey of Online Learning," a study conducted by Babson research group with a large number of participants concluded that 90% felt, "it might be feasible and that most of the high school students will be soon taking an online class in five years to provide relevant educational opportunities to meet career goals" (Babson College, n.d.). Virtual learning was one of the means to support conventional education but with the launch of e-learning, what if all the students are forced to opt for this option indefinitely? The angst of all the foreseen plans coming to halt, just like that because barriers tend to make people, especially students go through a lot of stress. Such situations need a lot of attention and external help to deal with" (Goothy, Goothy, Choudhary, Potey, Purohit, Chakraborty, Pathak, & Mahadik, 2020 April 30).

Stress can be illustrated as a feeling of emotional, mental, and physical pressures that define one's state of mind, and on the other hand fear of the unknown is known as anxiety and in this case, it is the coronavirus (World Health Organization, 2020 March). It was speculated that people facing pandemic had emotional breakdown leading to anxiousness, stress, and depression, furthermore magnified by the inhabitation of electronic learning to fulfill academic ambitions for the student community. Lately, the COVID-19 confinement or lockdown disrupted the curiosity to seek daily chores, hobbies, healthy regimes, lively interactions of a student and a teacher, on-campus routines, and finally eliciting psychological distress are commonly identified.

The chief goals of this study are to understand the present Online Teaching-Learning effects on students with regards to their gender, level of education, residing place, and the uncertainty of the examinations. For instance, a student residing in the same city as their educational institute may not be distressed as someone who resides in a different location due to the impact of migration amidst lockdown (Dandekar, & Ghai, 2020, May). Though teachers are trying to give their maximum effort, the impact of online teaching isn't optimum (Agha, 2020, April 3). The fundamental reason being, all students are unable to access virtual platform usage and smooth functioning of the session by the hindrance of network instability and its affordability. The transition of conventional classes to e-learning isn't trouble-free which can have a huge repercussion on student's career paths. In a study by Roy, Tripathy, Kar, Sharma, Verma, & Kaushal (2020, June) and Acharya, (2020, June 15), high amounts of anxiety and stress were found among Indian students during the COVID-19 outbreak. To the best of their knowledge and efforts, distress experienced by students undergoing online education contains various forms of internal and external stressors. But it is important to explore the stress-induced due to the electronic environment. Thus, this is an attempt to understand the absolute digitalization of education for planning effective mental health management (Rehman, Shahnawaz, Khan, Kharshiing, Khursheed, Gupta, Kashyap, & Uniyal, 2020, June 23) for the student community.

2. Methodology: A nationwide lockdown was announced due to the spread of the Coronavirus affecting the mass population. This crisis not only needed a substantial study on the development of vaccines but also on the deteriorating mental, physical, and emotional health as a result of isolation, which demanded the need for observational learning from society. Thus, various questionnaires or online surveys are circulating in and around social

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

media. To make our survey accurate in every detail, the questionnaire was designed under certain parameters, as this online survey was pivotal and essential to determine the outcome of the study and has:

- a) The main target was to achieve student respondents undergoing virtual learning, as online classes have been taken up by the majority of the educational institutions and the student community to continue their intellectual well-being amidst the social-distancing.
- b) Age was the key element of a question to interpret the stress levels of students inclusive of their profuse areas of study and level of education. The inquiry was kept simple, straight forward, and uncluttered to allow students especially those below the age of 12 years to feel comfortable in answering.
- c) To gain faith over the authors of the questionnaire and eliminate any doubts or hesitancy of the participants in the survey, no personal information like name, Email id, address, ID card was collected, to make the respondent feel reliable upon the source. This is the bias that was considered to be a benefit in the results.
- d) As students, the way of dissemination of the questionnaire was chosen to send across social media like WhatsApp, E-mails, and Instagram. The benefit of this kind of social framework is, the inquiries are amplified by the means of sharing or like a relay until we accomplish a certain aggregate of attendees to establish a significant and meaningful groundwork for data analysis.
- e) Lastly, surveys ensured the form could be filled in 3-5 minutes, even if maximum detailed information isn't registered by making it short. This is regarding an affirmative approach towards the stress reliever of the attendees.

The elements that are finalized to be part of the survey questionnaire was divided into three sections containing multiple-choice questions, checkboxes, short answers, and linear scales to ease out the process of reporting to each of the query being asked. Also, 23 out of 25 questions were marked as required (denoted by *) to compute the uniform frequency of responses.

- i) The opening of the form included the basic criteria of the student like age, gender, their current educational status.
- ii) The second section contained 20 questions on “virtual learning challenges”.
- iii) The last section comprised questions on stress perception levels inclusive of any effects seen physically, mentally, and cognitively.

The survey accounted for remarkable quantitative data for further study, but to address the qualitative methodological approach to estimate various factors of stress on students under the same given conditions, a limited number of attendees volunteered to follow up on the assessment. The supporting assessment eventuated in the manner of Screen time vs. Stress (SS), the Perceived Stress Scale-10 (PSS-10), Stress Exploration (SE), Signs, and Symptoms of Stress (SSS) each of the studies had 28 subjects who were the part of a case study for 8 days.

The Stress vs. Screen time was a direct query asking the individual's average screen time for the past month and posed a question of whether higher screen time had any effect on their stress and anxiety. This aspect has led the study in interpreting the results regarding electronic environment-induced stress levels. The other form is made in terms of generating Perceived Stress Scale-10 developed by Sheldon Cohen (Manzar, Salahuddin, Peter, Alghadir, Anwer, Bahammam, & Pandi-Perumal, 2019; Maroufizadeh, Foroudifard, Navida, Ezabadi, Sobati, & Omani-Samani, 2018), as it's the most widely accepted scale to analyze the perception of stress, taking into consideration the three perceptions like emotional, environmental and psychological response. Stress exploration was aided in identifying the techniques for stress management suitable for every individual.

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

The questionnaire was sent on 2nd August 2020, drafted over Google Forms at <https://forms.gle/x2WXo1fQWwHCEwAY8> which is widely available, & can be accessed anywhere, highly user friendly, and easily adapted to mobile devices. Google form is the best alternative resource to prevent fomites based transmission of pathogens amidst epidemiology for paperless research procedures but it remains a unilateral option. The subjects/students who responded and contributed to our study belonged to three groups - Group I (Age- <12 years), Group II (Age- 12-17) & Group III (Age- 18-24).

3. Results: Altogether 343 responses collected in our study via Google forms. Data were organized and statistically analyzed which is diagrammatically & graphically represented in the following figures 1, 2, 3 4, 5, 6, 8, 10. The parallel case studies are tabulated in the form of figure 7, 10 respectively.

The results of the study were very convincing and gave insight into the varying stress levels in different groups. Though we had variation in the number of subjects in each group, out of total responses 73% were from graduate students 20% were from high school, 4 % were postgraduate students whilst 3% were in middle school as tabulated in figure 1.

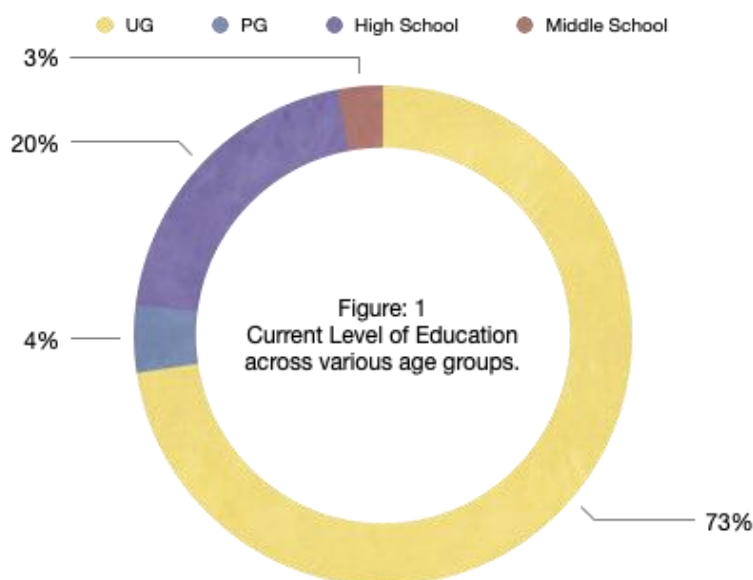


Figure 1: Level of Education of the Respondents

Figure 2 indicates the no. of hours of study for different age groups. 73.95% students under the age group 12-17 have their online classes for 3-6 hours, 15.62 % of the same age group has their class in the time range of 0-3 hours and 10.41% of that age group has their class for more than 6 hours. The age range of 18-24, the majority of them have their class in the time frame between 3-6 hours, 23.23 % have their classes less than 3 hours 19.50% have their class for more than 6 hours. In the age range of students below 12, 50% have their classes in the time frame of 3-6 hours and 50% have it in less than 3 hours. Figure 2 shows that with the increase of age range, the duration of the class time also increases.

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

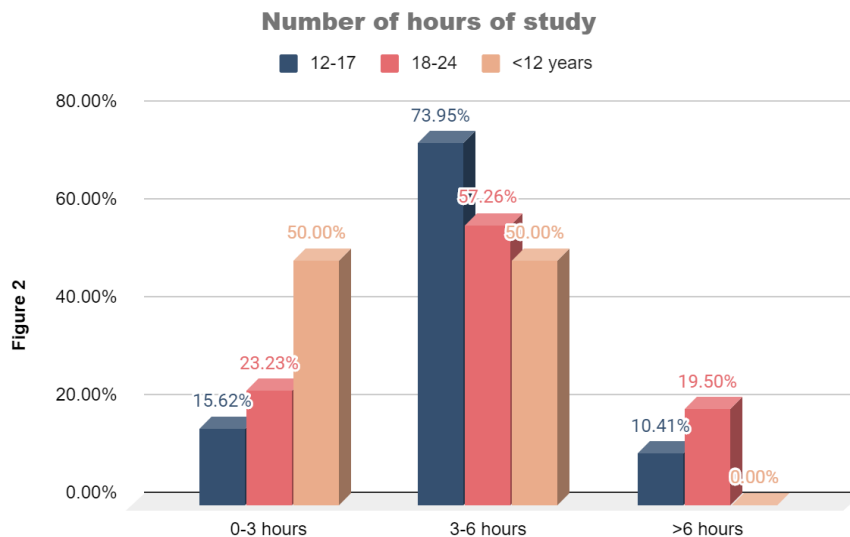


Figure 2: Number of Hours Devoted to Study

Figure 3 shows students below the age of 12 under Group-1, have the potential to reach maximum cognitive, physical growth, and development but they are not aware to greet and accept various situations resulting in stress. The affirmations confirm that virtual communications are not suitable options for close interactions that students are missing out on. This may lead to disinterests, easily exhausted and unavailability of time for physical hobbies and socio-affable relations. Ambivalent responses were observed in cases like online classes being very tough, having a designated place of study, and having a stable internet connection; these kinds of responses are subjected to solitary situations irrelevant to data. Besides, it manifests incapability of students to cope or understand, as teaching pace is much faster compared to regular modes of classes and the simultaneous availability of social media and electronic gadgets around is a recurring source of distraction for students of this age group.

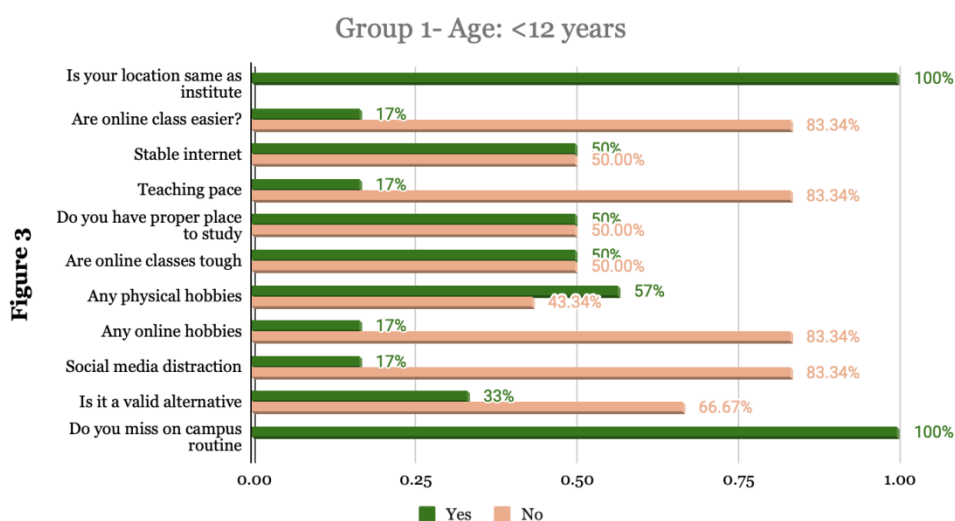


Figure 3: Different Aspects of Online from the Age Group 1 Respondent (Age below 12 Years)

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

A large expansion of stress responses of students from age 12-17 years under Group-2 as seen in figure 4, primarily those who belong to high school and undergraduate compared to <12 years of age. The intensity of the academic burden and the transition from one class to another in an off-putting situation, the institutions are either forced to rush in completing the syllabus or is that how online classes function? Facing fast pace learning which is neither easy nor less stressful, even at the comfort of learning from home. Is this a good sign for young minds to be pursuing career paths with education which is not shown to have a major impact on students' minds. Students are taken away from exploration through campus-teaching, finding common interests to pursue among peers, seeking personal hobbies, and increasing physical activity due to prolonged lockdown. Barely there could be any extra-curricular indulgence to have versatile, resilient, and intellectually competent. Around 91.6% of students found missing friends, daily commute, and on-campus routines. A form of social anxiety, a constant feeling of missing peers, and the incessant need to feel included, which is the point of conflict during online classes.

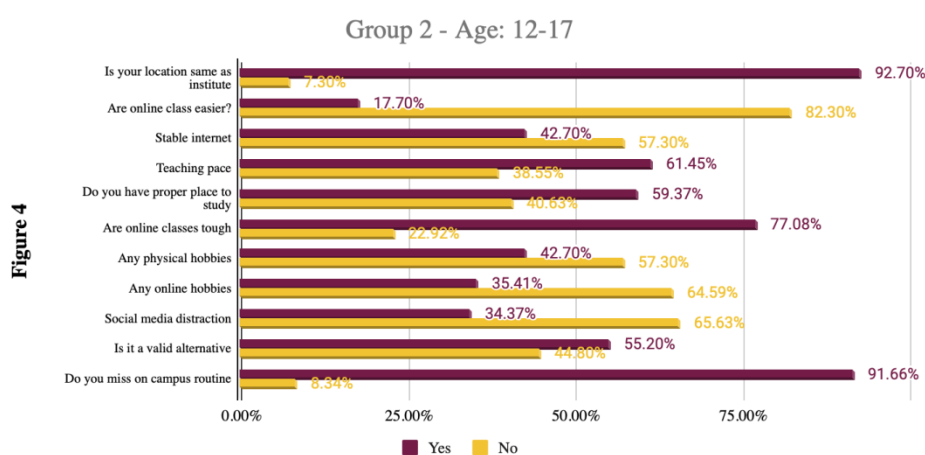


Figure 4: Different Aspects of Online from the Age Group 2 Respondents (Age 12-17 Years)

In figure 5, containing students age 18-24 under Group-3 includes the major part of our statistical data, the pattern of responses is found to be similar to that of Group-2, and the notable contributor is the disapproval of online classes, a valid alternative to campus education. This contradiction may be due to the complexity of the syllabus and learning potentials among students between 18-24 years of age, which cannot be fulfilled by online modes of teaching influenced by an academic load and other correlating factors that act as stressors. Schools are meant to be the host to produce well rounded and highly skilled citizens. As the studies have progressed and stress is better understood than ever (Reddy, Menon, & Thattil, 2018) as a lifestyle crisis that affects any individual not accounting for their developmental stage (Banerjee, & Chatterjee, 2016). In Indian culture, specifically all that's expected of students is to focus on their studies. The added pressure of online classes isn't helping anyone. The expectations of conquering the world seem pretty unfathomable when you are not allowed to go out in the world. Not just students, but in India parents or guardians are the primary caregivers of the children even at the ages of 23-24. Affording technical equipment for them especially at a time when around 136 million jobs are in jeopardy has proven to be unbearable.

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

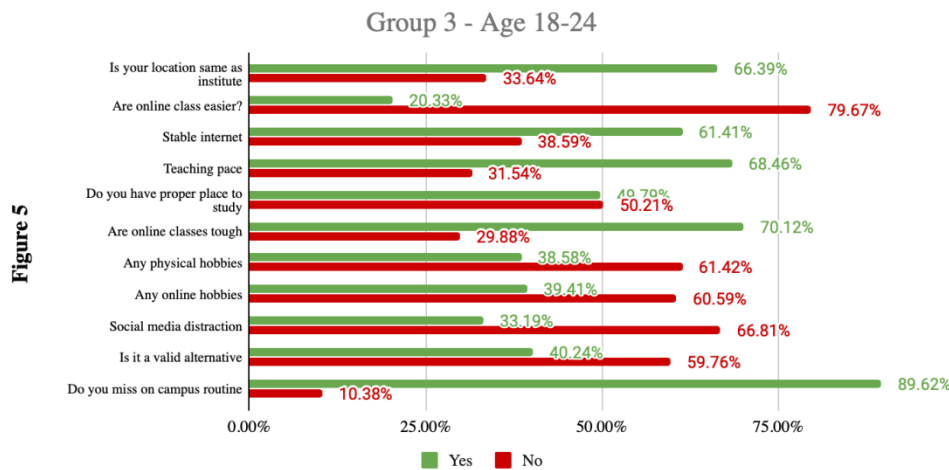


Figure 5: Different Aspects of Online from the Age Group 3 Respondents (Age 18-24 Years)

As tabulated in figure 6, having a hobby can substantially result in the alleviation of stress according to various studies in universities like Colombia and Kettering. However, in our case, 207 out of 345 students report having not enough time to even pursue their hobbies. In the same survey, 44.3% of students report back that they feel fatigued and burnout often in the online class. The same holds for health and exercise (Levy, & Goldman-Rakic, 2000). Still, 37.1% of survey takers report not having a healthy routine and 35.4% can label their routine, healthy sometimes. Biologically, when your brain starts perceiving a chronic threat in the form of stress, the dorsolateral prefrontal cortex experiences shrinking the DLPFC functions like planning, cognition, and memory and as it shrinks one starts losing concentration and focus and the ability to plan and they start developing apathy. What else happens is the hippocampus also starts to shrink where memory is lost. All of these are symptoms of chronic depression and that is why we wanted to make sure that students feel a sense of purpose when we asked them if they felt that, is an online campus a valid equivalent to a real class where the majority doesn't even believe it to be a legitimate equivalent (55.4%) feeling a sense of false achievement.

General Stress Induced Situations

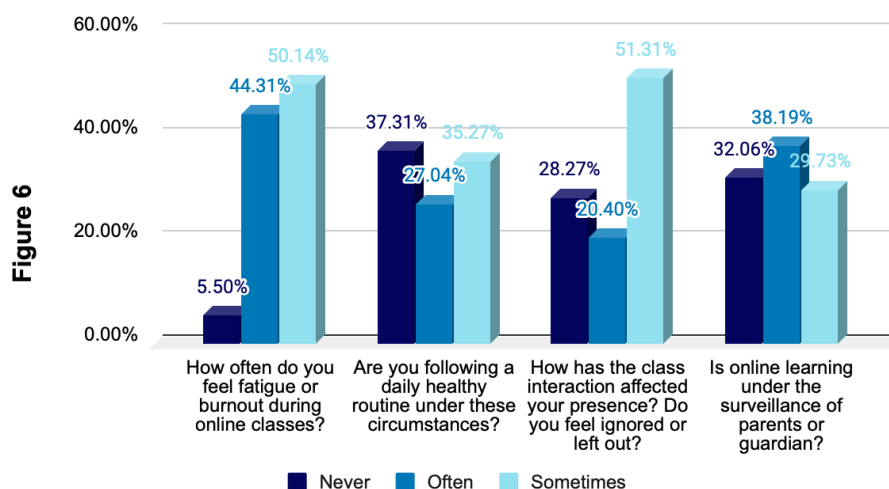


Figure 6: General Stress Induced Situation of the Respondents

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

PSS-10 developed by Cohen et al is a tool to study the degree of how stress is perceived by people under similar or even the same happenings. It is a resilient variable to study global stress levels and is a great method in analyzing key factors that have resulted in valuable output to this study. The overall missing data were filled up as this test had minor misled information. A total of 28 students took the test. This test posed 10 questions in terms of linear from 0-4, to answer certain questions for the past month. Every question indicated how often and certain the individual feels to compute a value estimate. The results have been analyzed given several limitations. An informed measurement of perceived stress was necessary to interpret thus, the overall score was categorized on a total score of 40. *0-13 less stressful; 14-26 moderately stressful; 27-40 extremely stressful*. All the results derived from the subjects are depicted in figure 7 and concluded that 69 % were categorized as moderately stressed, while 17.2% and 13.8% were perceived on a low level of stress.

Perceived Stress Scale-10

Figure 7

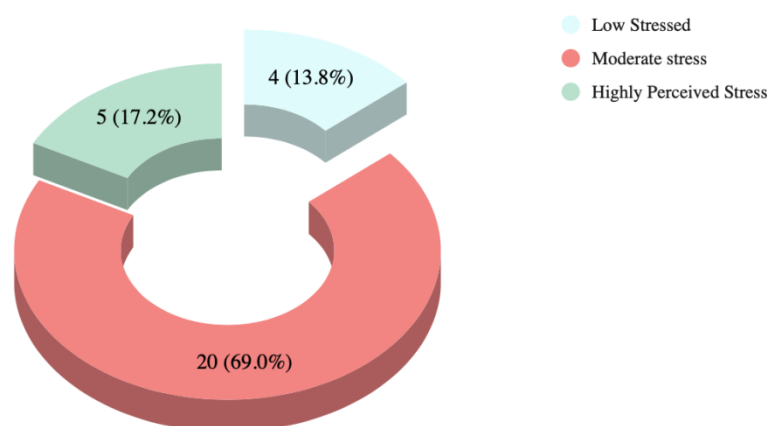


Figure 7: Perceived Stress Scale-10 of the Respondents

Figure 8 shows the most chosen response for all the 3 questions raised. In a campus setting, the students have the prerogative of finding any book on any subject matter in the school's library but in a home setting, this prerogative only comes under the stipulation for only those books that are online. This is why 155 responses were due to not receiving appropriate study material whereas 167 felt they received adequate study material. It has been mentioned above that online classes were never a valid alternative and neither delivered satisfaction to the faculty at large for various reasons. Though modifications have been made, it is just considered adequate to meet the needs of every single student. Not every individual could have computers, laptops, or tablets. Similarly, a proportion of students might not have hands-on experience with Microsoft Office for documentation. As seen in figure 9, 10, the parallel case study conducted has contributed valuable input on-screen time vs. stress. It is important to recognize the correlation between obscure time vs. stress, a parallel case study data has been recorded to support the theory that increments of screen time have psychological impacts or on one's mental health. Notably, around 59.1% of the student respondents opted for this particular academic year as the major contributor towards stress, moreover coupled with the steady increase of screen time has potential health deterioration among various demographics (Stults-Kolehmainen, & Sinha, 2014).

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

General Class Requirements

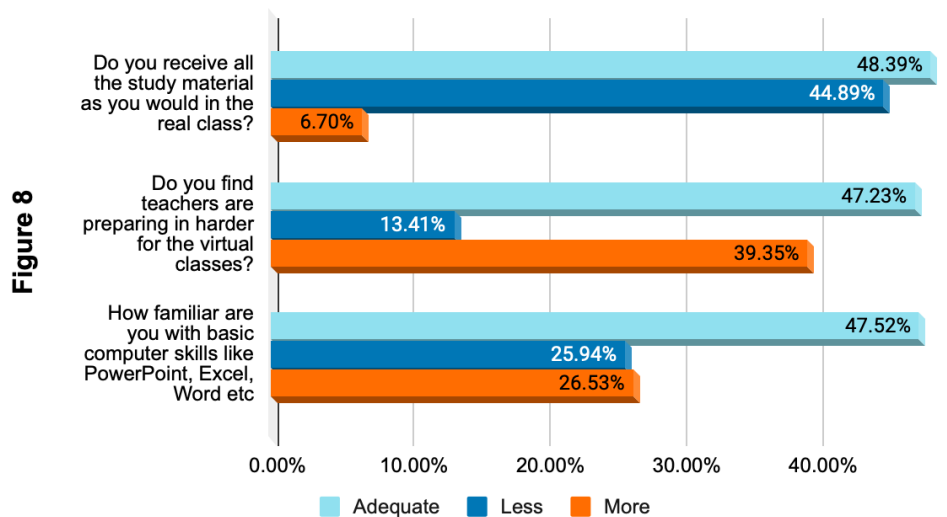


Figure 8: Online Environment as Perceived by the Respondents



Figure 9: Stress vs. Screen Time of the Respondents

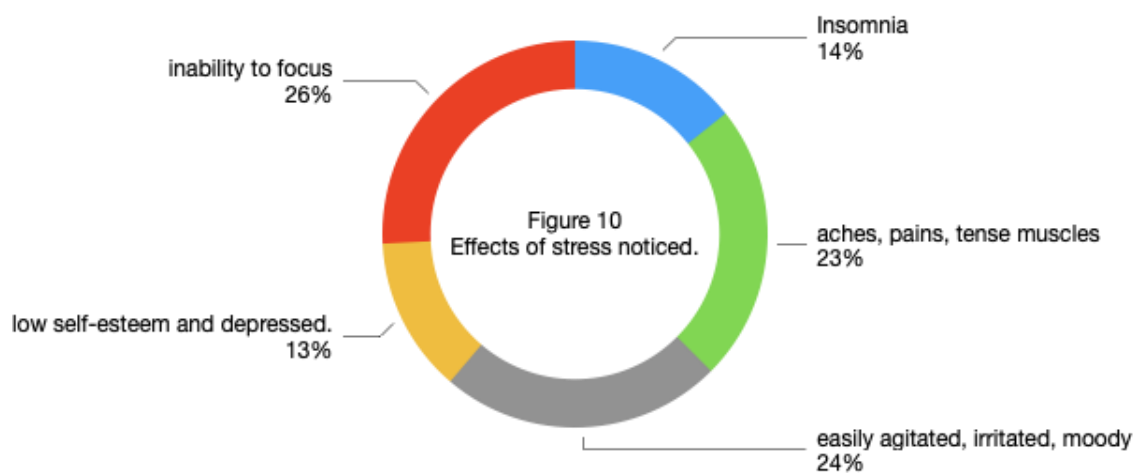


Figure 10: Adverse Effect of Stress

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

4. Discussions: There have been studies showing various conclusions as follows.

- a) The narrowing of the vasculature of the retina of the eyes among children who are prone to a larger amount of screen time, leading to cardiovascular risks that those who are exposed to external environments or outdoors have developed healthy retinal vasculature.
- b) There have been brief complaints or health conditions received by the respondents exclaiming the occurrence of eye-sight.
- c) We all are aware that self-quarantine or shutting ourselves at homes amongst the growing health crisis, has limited a lot of an individual's average physical activity.
- d) Independent of physical activity, screen time is associated with metabolism dysregulations like high blood pressure, obesity, lipid density, and abnormal blood sugar levels at times.
- e) It is a well-known fact that people under the influence or presence of any electronic gadgets tend to overeat, often leading to mindless eating among adolescents.
- f) Exposure to continuous electromagnetic fields in the vicinity is associated with flight and fight responses including acquiring a condition of sleeplessness called insomnia.
- g) The use of electronic gadgets has resulted in diminished cognitive capability among teenagers, which often could lead to numerous emotions like disinterest in daily routines, avoiding responsibilities, low memory power, and huge amounts of stress and anxiety to fulfill their academic ambitions over the ongoing global catastrophe.

Optimistically these observations help us correspond to the stress-related health conditions which have been the whole point of living in solitary away from public interactions. Predominantly the student community undergoing the inescapable and the frequency of symptoms and effects of stress.

5. Conclusion: The study conducted helped us in understanding stress levels around students of different groups from school and colleges. Stress studies were in accordance with similar studies conducted earlier. Our study portrays that the moderate stress level was found in more subjects and it was observed that students were working for better adaptation to minimize the stress and anxiety due to online classrooms amidst pandemic 2020. The efforts were taken by educational institutes and teachers to not give a miss to the teaching and the learning process seems to be working for academic benefits, though overall development of students in terms of physical and emotional wellbeing is getting compromised. The present study has certain limitations that can be corrected and we intend to take up the study further avoiding biases with a large number of subjects to make it statistically significant.

Acknowledgement: We would like to sincerely thank the Dept. of Biochemistry and Management of St. Francis College for Women, Begumpet, Hyderabad; for their continuous support throughout our study. Our gratitude to all those who took the time to give us information.

References

- Acharya, S.. (2020, June 15). *Stress in the students after lockdown due to outbreak of coronavirus (COVID-19)*. Acharya, Samikshya, Stress in the Students after Lockdown due to Outbreak of Coronavirus (COVID-19) (May 15, 2020). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3627022>
- Agha, E. (2020, April 3). *Learning rebooted: Online education during COVID-19 lockdown puts spotlight on India's digital divide*. News18. <https://www.news18.com/news/india/learning-rebooted-online-education-during-covid-19-lockdown-puts-spotlight-on-indias-digital-divide-2563265.html>

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

- Babson College. (n.d.). *Babson Study: Over 7.1 million higher ed. students learning online*. <https://www.babson.edu/about/news-events/babson-announcements/babson-survey-study-of-online-learning/>
- Banerjee, N., & Chatterjee, I. (2016). *Academic stress, suicidal ideation & mental well-being among 1st semester & 3rd semester medical, engineering & general stream students. Researchers world*, 7(3). <https://www.questia.com/library/journal/1P3-4171112151/academic-stress-suicidal-ideation-mental-well-being>
- Dandekar, A., & Ghai, R.. (2020, May). *Migration and reverse migration in the age of COVID-19. Economic and Political Weekly*, 55(19). <https://www.epw.in/journal/2020/19/commentary/migration-and-reverse-migration-age-covid-19.html>
- Goothy, S.S.K., Goothy, S., Choudhary, A, Potey, G. G., Purohit, M., Chakraborty, H., Pathak, A., & Mahadik, V.K.. (2020 April 30). COVID-19 lockdown impact on the mental health of students: need to start a mental health cell. *MOJ Anatomy & Physiology*, 2020; 7(2): 51–52. <https://medcraveonline.com/MOJAP/MOJAP-07-00289.pdf>
- Levy, R., & Goldman-Rakic, P. S. (2000). Segregation of working memory functions within the dorsolateral prefrontal cortex. <http://www.systems.neurosci.info/LearningCentral/Levy.pdf>
- Manzar, M. D., Salahuddin, M., Peter, S., Alghadir, A., Anwer, S., Bahammam, A. S. & Pandi-Perumal, S. R. (2019) Psychometric properties of the perceived stress scale in Ethiopian university students. *BMC Public Health* 19, 41. <https://doi.org/10.1186/s12889-018-6310-z>
- Maroufizadeh, S., Foroudifard, F., Navida, B., Ezabadi, Z., Sobati, B., & Omani-Samani, R. (2018). *The perceived stress scale (PSS-10) in women experiencing infertility: A reliability and validity study*. <https://doi.org/10.1016/j.mefs.2018.02.003>
- Reddy, K. J., Menon, K. R., & Thattil, A. (2018). *Academic stress and its sources among University students. Biomedical and Pharmacology Journal*, 11(1). <https://biomedpharmajournal.org/vol11no1/academic-stress-and-its-sources-among-university-students/>
- Rehman, U., Shahnawaz, M. G., Khan, N. H., Kharshiing, K. D., Khursheed, M., Gupta, K., Kashyap, D., & Uniyal, R.. (2020, June 23). *Depression, anxiety, and stress among Indians in times of COVID-19 lockdown*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7309680/>
- Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., & Kaushal, V. (2020, June). Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian Journal of Psychiatry*, 51:102083. <https://doi.org/10.1016/j.ajp.2020.102083>
- Stults-Kolehmainen, M. A., & Sinha, R. (2014). *The effects of stress on physical activity and exercise. PubMed Central (PMC)*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3894304/>
- The Lancet. (2020, April 25). India under COVID-19 lockdown. *The Lancet*, 395(10233), 1315. [https://doi.org/10.1016/s0140-6736\(20\)30938-7](https://doi.org/10.1016/s0140-6736(20)30938-7)
- World Health Organization. (2020 March). Mental health and psychosocial considerations during the COVID-19 outbreak. <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf>.
- World Health Organization. (2020). Coronavirus disease (COVID-19) pandemic. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- World Health Organization. (2020, April 27). Archived: WHO Timeline - COVID-19. <https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19>

How to Cite this Article

Eduri, A., Dewani, R., Sanjeev, S., Jaipuria, D.S., & Varma, S. M. (2021). Stress in an Online Classroom amidst Pandemic 2020. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 90-100). Badan Barman.

Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic

Dr. Dalimi Devi

Librarian, Arya Vidyapeeth College, Guwahati, Assam

&

Ms. Bijuli Rajiyung

Assistant Professor, Arya Vidyapeeth College, Guwahati, Assam

Abstract

Stress itself is stressful. It is the condition which disturbs the normal psychological and physiological functions of an individual. The coronavirus disease (COVID 19) outbreak in the world has created a sudden closure of physical classrooms and shifted to online classes which has a catastrophic impact on society. This new online learning method affected the students psychologically.

This study hypothesized that stress was associated with these online teaching tools due to different issues as well as lack of face to face communication between teachers and students. It will also find out the different levels of stress regarding online teaching associated with male and female students.

An online survey was conducted from 1st to 6th semester undergraduate students. A total of 310 students voluntarily responded to the questionnaire. The result shows that stress prevailed among the students who could not avail online education. Motivational talks are also required from time to time to create positivity among students and manage self-study time effectively online.

Keywords: Stress, Online Education, Covid-19

1. Introduction: Covid-19 pandemic has prompted most universities around the world to shift towards online education and implementations of Information and Communication Technology (ICT) have contributed a lot in the emergence of innovative and smart educational methods for the benefit of the student's community. ICT is rapidly changing the whole world and creating new challenges and opportunities. Online education has become very prevalent today in higher education, notably during this Covid19 pandemic situation. On this unprecedented current situation in the world of academics-one that has not occurred since the second World War, though the scale and human impact of the current pandemic is far far larger than any war in human history. Now the situation is either students have to adapt online education or perish. Smartphones have become workplaces. Student life has been disrupted to a great extent due to this pandemic. Students have high engagement with social media such as Facebook & YouTube but less understanding of, and engagement with other tools that can support their learning. It has brought a drastic change in the educational system and consequently, we can see that Covid19 has shifted the physical classroom setting to a virtual model.

Arguments can be made for both sides concerning the pros and cons of both the methods of teaching. One of the advantages of online education is that learners can take part in the class across the globe, provided they have laptops or smartphones and reliable internet connections. Students can easily access the vast sources, subject materials, video lectures, scholarly articles, and other materials relevant to their course topic at any time as per their convenience. Students can have an in-depth analysis by accessing these materials available on the internet. Remote and E-learning provides easier access to learning, encourage affability so that students can overcome space and time limitations and offers new potential

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), Online Teaching-Learning: Issues and Challenges (pp. 101-106). Badan Barman.

for the teaching process to be focused on the learners' needs and possibilities. Change is inevitable for survival. But this transition from traditional classroom to electronic learning can be quite stressful for students as it has changed from normal daily routine and maximum students are not accustomed to the new methods of teaching-learning process. Stress is itself stressful. Stress is the condition which disturbs the normal psychological and physiological functions of an individual. Stress may be defined as the extent to which one feels overwhelmed as a consequence of inconvenient constraints which may be due to mental, physical, emotional, or psychological strain. The term "stress" was first defined by Hans Selye (1936), a hungarian endocrinologist as "the non-specific response of the body to any demand for change". Stress causes physical or mental tensions. Stress may be due to both the internal and external factors. One may experience stress from the environment or social situations, it may be due to an illness or medical procedure and one's thoughts as well. Two main types of stress are acute stress and chronic stress. Acute stress lasts for a short period of time while chronic stress lasts for a longer period. Overtime, chronic stress may lead to health problems such as heart disease, high blood pressure, depression or anxiety, diabetes etc. In the traditional method of teaching-learning, students and teachers are engaged socially with different people from different backgrounds, places, society, etc, while in online mode social features of education become null which may eventually lead to social isolation or withdrawal. There is lack of connection or engagement between the learners and the educators in this method.

To concede the anxiety of online learners, this study investigates the overall impact and effectiveness of the online education process on students in several Colleges under Gauhati University. The effectiveness of online learning is influenced by several factors such as administrative issues, social interaction, academic skills, technical skills, learner motivation, time and support for studies, technical problems, cost and access to the internet.

2. Objectives: As we know the effects of COVID-19, with individuals are required to reduce physical contact to others outside one's household (*social distancing*). Additional measures include curfews, quarantines, and closing of non-essential stores, educational institutes are shut and students are staying at home. In this regard their physical as well as mental health is most important. It is hypothesized that due to non-use of online resources earlier and lack of face to face interaction between teacher and students a significant stress is associated with these students. Keeping in view the above circumstances, our research objectives were stated as follows:

- a) To find out sources of stress during this lockdown among the undergraduate student community.
- b) To find out the difference level of stress between male and female students, if any.
- c) To find out if any the relationship is between online class and stress.
- d) To find out how the science, arts and commerce studies connect with the online learning approach.

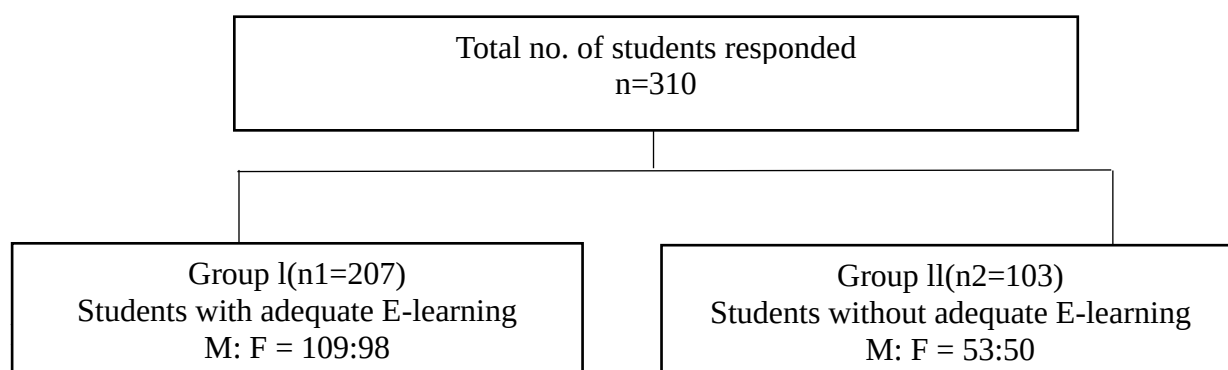
3. Research Methodology: An online survey was conducted among the Science, Arts and Commerce graduate students in the colleges under Gauhati University. A total of 310 students participated in the study. All the students voluntarily participated in the survey and data from the students was taken through an online survey link on Google form. The study group consisted of from degree 1st to 6th Semester. The questionnaire comprised three sections. The questionnaire scores their stress level during lockdown and on online learning programs. Students from different colleges were requested to take part in the survey designed on the basis of perceived stress score scale.

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 101-106). Badan Barman.

Maximum colleges under Gauhati University have started e-learning process with the help of teaching tools like Zoom, Cisco Webex, Google Meet, Go to meeting, Join.me, Apache Open Meeting, etc. Till the time of this study some colleges had not started the digital learning process. Two groups were made: one group who took part in online classes conducted with the help of a learning management system like Google Classroom, Edmodo, Schoology, Easyclass, Tinkfic, TalentLMS Coggnio and another group without having any computer knowledge. A comparative statement prepared on stress score in both the groups. In both the groups, the same questionnaire was given to students and at the same time their stress was scored and compared. Basic questions gathered their background information on gender and location etc. during lockdown.

4. Statistical Analysis: Total 310 participants data were analysed. The students were divided in two groups, group I: students who properly participated in online classes and group II: not participated in online classes.



a) Gender Wise Distribution of Data: In order to avoid any gender bias, efforts are made to collect data from almost equally distributed samples. It may be noticed from table-1 that data collected from 162 were males and 148 were female students.

Sl.No.	Gender	Numbers of User	Percentage
1	Male	162	52.25%
2	Female	148	47.75%
Total		310	100%

Table 1: Gender-wise distribution

b) Course Wise Distribution of Data: Table -2 provides the data regarding distribution of students with regard to their course of study.

Sl.No.	Course	Number of Respondents	Percentage
1	Arts	111	35.81
2	Commerce	91	29.35
3	Science	108	34.84
Total		310	100.00%

Table 2: Course Wise distribution of students

Group 1 (n1=207) students with proper e-learning

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 101-106). Badan Barman.

Very Low Stress n ₁ =45		Low Stress n ₂ =62		Average Stress n ₃ =100		High Stress n ₄ =0		Very High Stress n ₅ =0	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
26	19	34	28	46	54	0	0	0	0

Table 3: Perceived Stress Scale of Students

Group 1 (n ₂ =103) students without proper e-learning									
Very Low Stress n ₁ =45		Low Stress n ₂ =62		Average Stress n ₃ =100		High Stress n ₄ =0		Very High Stress n ₅ =0	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0	0	0	0	05	09	15	16	27	31

Table 4: Perceived Stress Scale in Between Undergraduate Male and Female Students

Table 3 explains the significant difference in level of stress among group I and group II students. Those students who continued learning by regular online methods were having less level of stress in comparison to the students who had no exposure to any electronic tools. The female student group having a higher percentage of stress than male students. Maximum percentage of students responded with sometimes as an answer after analysing the individual responses of the questions. The collection was collected on the same time duration and the high response rate by undergraduate students. We have found after analysing finding that maximum number of students are in favour of the online interactive sessions during the pandemic situation. Some students have also commented that the series of online classes are more helpful to them as they are able give more concentration on the speaker in comparison to regular classroom teaching. A few students also informed that e-learning method is more fruitful for them as in regular class they found some surrounding disturbance.

Arts, Science and Commerce students do not differ in experience of stress and time management. Rural students experience more stress than urban students and rural area students use more time management strategies.

c) Students Attitudes towards Online Learning: Table 5 reflects that the students prefer online teaching during this pandemic situation. But most of them agreed that face to face contact with teachers is necessary for learning. Students found it easy to submit the assignment in digital form and maximum students are comfortable in an electronic environment.

Sl.No.	Questions	Agree	Somewhat Agree	Disagree
1	Online learning is more motivating than conventional learning in this pandemic?	145(46.77)	94(30.32)	71(22.90)
2	Face to face contact with teachers necessary for learning?	120(38.70)	100(32.25)	90(29.03)
3	No difference between online and conventional learning	80(25.80)	84(27.09)	146(47.09)
4	It is easy to complete group assignments digitally	140(45.16)	90(29.03)	80(25.80)

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 101-106). Badan Barman.

5	College/university courses can be completed effectively through internet	105(33.87)	59(19.03)	146(47.09)
6	Comfortable to communicating electronically	147(47.41)	58(18.70)	105(33.87)

Table 5: Attitude towards E-learning

Questions	Group I (n1=207)					Group II(n2=103)				
	Never	Occasionally	Sometimes	Often	Always	Never	Occasionally	Sometimes	Often	Always
How often do you upset during the lockdown?	58 (28.02)	90 (43.32)	56 (27.02)	3 (1.28)	0 (0)	7 (6.7)	25 (24.27)	41 (39.80)	20 (19.41)	10 (9.70)
How often have you felt that you were unable to control the important things in your life during lockdown?	65 (31.49)	108 (52.17)	29 (14.00)	4 (1.93)	1 (.41)	12 (11.56)	16 (15.53)	41 (39.80)	25 (24.27)	9 (8.7)
How often you have been able to control irritations in your life, during lockdown?	10 (4.83)	21 (10.14)	32 (15.45)	96 (46.37)	53 (25.60)	13 (12.62)	15 (14.56)	35 (33.98)	23 (22.33)	17 (16.50)
How often have you felt obstacles were pulling up so high that you could not overcome them during lockdown?	93 (44.92)	49 (23.67)	56 (27.05)	7 (3.38)	2 (.96)	14 (13.59)	13 (12.62)	46 (44.66)	22 (21.35)	8 (7.76)
How often have you been angered as things were outside of your control during lockdown?	32 (15.45)	96 (46.37)	53 (25.60)	19 (14.00)	11 (5.43)	9 (8.7)	25 (24.27)	41 (39.80)	16 (15.53)	12 (11.56)

Table 6: Level of stress in between Different Groups:

5. Conclusion: A Matthew Effect in educational technology is frequently observed: those who benefit most from the introduction of technology are indeed the ones who actually have the most. Our findings suggest that maximum students are satisfied with online classroom teaching in the pandemic situation. It has given a positivity and self-motivation to the

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 101-106). Badan Barman.

students and remarkably reduces the academic performance perceived stress level among undergraduate students. Developments in online learning are creating groundwork for a revolution in education, allowing learning to be individualised (adaptive learning), enhancing learners' interactions with each other (collaborative learning), and transforming the role of the teacher from disseminator to facilitator. Some important aspects of college and university life such as friendships, personal identity development, exposure to diversity and self-care skills will be much harder to achieve in a solely 'online' environment. But as we develop plans to be re-integrated with, and informed by, the advances made in higher education during the past few months. Overall online learning has acted as the primary key to relieve the stress among students who were away from conventional physical classroom teaching methods of college due to nationwide lockdown in India during the unprecedented situation.

References

- Antonowsky, A. (1979). *Health, Stress, and Coping*. 1st ed. San Francisco: Jossey-Bass Publishers.
- Dwivedi, D., Kaur, N., Shukla, S., Gandhi, A., & Tripathi, S. (2020). Perception of stress among medical undergraduates during coronavirus disease-19 pandemic on exposure to online teaching. *Natl J Physiol Pharm Pharmacol*, 10(08), 657-662.
- Mosley, T.H. Jr., Perrin, S.G., Neral, S.M., Dubbert, P.M., Grothues, C.A., Pinto, B.M., *et al.* (1994). Stress, coping, and well-being among third-year medical students. *Acad Med*, 69:765-7.
- Schwenk, T.L., Davis, L., Wimsatt, L.A. (2010). Depression, stigma, and suicidal ideation in medical students. *JAMA*, 304:1181-90.

How to Cite this Article

Devi D., & Rajiyung, B. (2021). Online Teaching and Perceived Stress Among Undergraduate Students During Coronavirus Disease-19 Pandemic. In Badan Barman & Kankana Baishya (Eds.), *Online Teaching-Learning: Issues and Challenges* (pp. 101-106). Badan Barman.

**People Associated with the
National Seminar on Online Teaching-Learning: Issues and Challenges
Held during September 3-4, 2020**

Session 1: Academic Integrity, Reference Management System & Plagiarism



Professor Narendra Lahkar

Chairperson

President, Indian Association of Special Libraries and Information Centres (IASLIC), Kolkata, West Bengal



Dr. Topi Basar

Co-Chairperson

Associate Professor, National Law University and Judicial Academy, Assam (NLUJAA), Guwahati, Assam



Dr. Nirmali Chakraborty

Moderator

Librarian, Sipajhar College, Sipajhar, Assam



Mrs. Geetali Das

Rapporteur

Joint Secretary, Women Librarians' Association of Assam (WLAA), Guwahati, Assam

Session 2: Learning Management System (LMS), Online Teaching-Learning & Video Conferencing Tools



Professor Sanjay Kumar Singh

Chairperson

Head, Department of Library and Information Science, Gauhati University, Assam



Dr. Zabeen Ahmed

Co-Chairperson

Librarian, Cotton University, Guwahati, Assam



Mr. Gautam Gogoi

Moderator

Assistant Professor, University of Science and Technology, Meghalaya, Meghalaya



Dr. Babita Kalita

Rapporteur

Joint Secretary, Women Librarians' Association of Assam, Guwahati, Assam

Session 3: Massive Open Online Course (MOOC) & Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)



Professor Pijushkanti Panigrahi

Chairperson

Head, Department of Library and Information Science, Calcutta University, West Bengal



Dr. G. Stephen

Co-Chairperson

Editor, Blog Section, LIS Links, India



Ms. Rima Nath

Moderator

Assistant Professor, Centre for Library and Information Science Studies, Dibrugarh University, Assam



Dr. Jyotirekha Bhattacharyya

Rapporteur

Treasurer, Women Librarians' Association of Assam, Guwahati, Assam

Session 4: Open Educational Resources (OER)



Dr. Mukesh Saikia

Chairperson

Librarian, Central Library, Tezpur University, Assam



Mr. Shiva Kanakala

Co-Chairperson

Editor, Blog Section, LIS Links, India



Mr. Digbijoy Das

Moderator

Assistant Professor, Department of Library & Information Science, Assam Women's University, Assam



Mrs. Dhiru Barman

Rapporteur

Treasurer, Women Librarians' Association of Assam, Guwahati, Assam

Session 5: Government Initiatives in Education during Covid-19 Period



Professor Subarna Kumar Das

Chairperson

Head, Department of Library & Information Science, Jadavpur University,
West Bengal



Dr. Akash Singh

Co-Chairperson

Assistant Librarian, Justice T.P.S. Chawla Library, National Law University
New Delhi



Mr. Munesh Kumar

Moderator

Editor, Forum Section, LIS Links, India



Dr. Latika Devi

Rapporteur

Vice President, Women Librarians' Association of Assam, Guwahati, Assam

Session 6: Electronic Resources & Remote Access



Dr. Tamal Kumar Guha

Chairperson

Librarian, Lakshminath Bezbaroa Central Library, IIT Guwahati, Assam



Dr. Manoj Kumar Verma

Co-Chairperson

Associate Professor, Department of Library and Information Science, Mizoram
University, Mizoram



Mr. Deepjyoti Kalita

Moderator

Assistant Professor, Department of Library and Information Science, Cotton
University, Assam



Mrs. Jaya Medhi

Rapporteur

Vice President, Women Librarians' Association of Assam, Guwahati, Assam

Session 7: Library Marketing & Web 2.0



Professor Manoj Kumar Sinha
Chairperson

Head, Department of Library and Information Science, Assam University, Assam



Dr. Jyotika Devi
Co-Chairperson

President, Women Librarians' Association of Assam, Guwahati, Assam



Dr. Tonmay Sabhapandit
Moderator

Head Librarian, Library, National Institute of Design Assam, Assam



Ms. Priyanka Chettri
Rapporteur

Assistant Librarian, Library, Assam Agricultural University, Khanapara Campus, Assam

Session 8: Stress Management in Electronic Environment



Professor Kaberi Saha
Chairperson

Professor, Department of Education, Gauhati University, Assam



Ms. Meenakshi Barthakur
Co-Chairperson

Consultant Psychologist, National Law University and Judicial Academy, Assam, Guwahati, Assam



Dr. Nirmal Ranjan Mazumdar
Moderator

Librarian, Library, Pub Kamrup College, Assam



Mrs. Bonti Bora
Rapporteur

Working President, Women Librarians' Association of Assam, Guwahati, Assam

Organizing Secretaries



Dr. Badan Barman

Founder and Chief Editor, LIS Links, India



Dr. Kankana Baishya

General Secretary, Women Librarians' Association of Assam (WLAA)

This page is intentionally left blank



Dr. Badan Barman has been working as an Assistant Professor in the Department of Library and Information Science, Gauhati University, Assam since 2014 to till date. Before joining his present assignment, he worked as an Academic Consultant and then as Assistant Librarian at Krishna Kanta Handiqui State Open University, Assam. Till date he completed one major research project and two minor research projects, authored and edited 12 books in the subject and received eNorth East Award 2011 (Jury Special Mention), KALA National Award for Young LIS Professionals, 5th eNorth East Award – 2014 and North East Social Impact Award 2015 (Special Mention). His OAJSE (www.oajse.com), LIS Links (www.lislinks.com) UGC NET (www.netugc.com) and LIS Study (www.lisstudy.com) websites are very popular among the professionals in India and abroad.



Dr. Kankana Baishya is working as Assistant Librarian at National Law University and Judicial Academy, Assam. She has more than twelve years of experience as a LIS professional. She qualified UGC-NET in 2010 and did her Ph.D. on “Management of Indian Institutional Repository: An Evaluative Study” under the supervision of Prof. Sanjay Kr. Singh, Head, DLISc, Gauhati University. She is the University Coordinator for UGC, INFLIBNET Centre and actively engaged in looking after the documentation and affiliation related work of the University. Her paper on “Intellectual Property Rights Issues of Indian Institutional Repository” received the best paper award in the professional summit of NLU, Delhi. Baishya is the founder secretary of Women Librarians’ Association of Assam (WLAA) and conducted awareness programmes on inculcating reading habit and a series of web talks on the LIS field.

Badan Barman

House No. 8, Taranga Path, Krishnanagar
P.O.: Japorigog, Guwahati-781005, Assam, India
Website: <http://www.badanbarman.in>

₹ 0.0

ISBN: 978-93-5408-234-4

